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Transcript Exhibit(s)

Docket #(s): SW-D1428A-09-0103

W-D1427A-09-0104

W-D1427A-09-0116

W-D1427A-09-0120

Exhibit # : A15-A40, R1-R2

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To: Docket Control

Date: January 26, 2010

Re: Litchfield Park / Rates
SW-01428A-09-0103, etc.
Volumes I through VII, Concluded
January 5 through 15, 2010

STATUS OF ORIGINAL EXHIBITS

FILED WITH DOCKET CONTROL

City of Litchfield Park (LP Exhibits)

1 through 8

Litchfield Park Service Company (A Exhibits)

1 through 40

Residential Utility Consumer Office (R Exhibits)

1 through 8, 10 through 35

Staff (S Exhibits)

2 through 21

EXHIBITS RETURNED TO PARTIES

Residential Utility Consumer Office (R Exhibits)

9

Withdrawn

Staff (S Exhibits)

1

Not offered

Copy to:

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Mr. Jay L. Shapiro, Litchfield Park Service Co.
Ms. Michelle Wood, RUCO
Mr. Kevin Torrey, Staff
Mr. Larry K. Udall, City of Litchfield Park

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5
6 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7 IN THE MATTER OF THE APPLICATION
OF LITCHFIELD PARK SERVICE
8 COMPANY, AN ARIZONA
CORPORATION, FOR A
9 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
10 PROPERTY AND FOR INCREASES IN
ITS WASTEWATER RATES AND
11 CHARGES FOR UTILITY SERVICE
BASED THEREON.

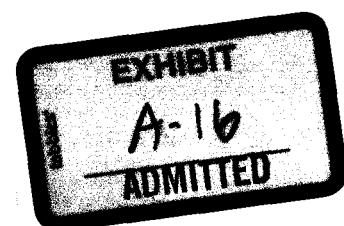
DOCKET NO: SW-01428A-09-0103

12 IN THE MATTER OF THE APPLICATION
13 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
14 CORPORATION, FOR A
DETERMINATION OF THE FAIR VALUE
15 OF ITS UTILITY PLANTS AND
PROPERTY AND FOR INCREASES IN
16 ITS WATER RATES AND CHARGES FOR
UTILITY SERVICE BASED THEREON.

DOCKET NO: W-01427A-09-0104

17 IN THE MATTER OF THE APPLICATION
18 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
19 CORPORATION, FOR AUTHORITY (1)
TO ISSUE EVIDENCE OF
20 INDEBTEDNESS IN AN AMOUNT NOT
TO EXCEED \$1,755,000 IN
21 CONNECTION WITH (A) THE
CONSTRUCTION OF TWO RECHARGE
22 WELL INFRASTRUCTURE
IMPROVEMENTS AND (2) TO
23 ENCUMBER ITS REAL PROPERTY AND
PLANT AS SECURITY FOR SUCH
24 INDEBTEDNESS.

DOCKET NO. W-01427A-09-0116



1 IN THE MATTER OF THE APPLICATION
2 OF LITCHFIELD PARK SERVICE
3 COMPANY, AN ARIZONA
4 CORPORATION, FOR AUTHORITY
5 (1) TO ISSUE EVIDENCE OF
6 INDEBTEDNESS IN AN AMOUNT NOT
7 TO EXCEED \$1,170,000 IN
8 CONNECTION WITH (A) THE
9 CONSTRUCTION OF ONE 200 KW ROOF
10 MOUNTED SOLAR GENERATOR
11 INFRASTRUCTURE IMPROVEMENTS
12 AND (2) TO ENCUMBER ITS REAL
13 PROPERTY AND PLANT AS SECURITY
14 FOR SUCH INDEBTEDNESS.

DOCKET NO. W-01427A-09-0120

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REBUTTAL TESTIMONY (AMENDED)
OF
THOMAS J. BOURASSA
ON
RATE BASE, INCOME STATEMENT AND RATE DESIGN
(Phase 1 – Determination of Rate Base and Rates)
January 5, 2010

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

6 A. On behalf of the applicant, Litchfield Park Service Company ("LPSCO" or the
7 "Company").

8 **Q. HAVE YOU PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THE**
9 **INSTANT CASE?**

10 A. Yes, my direct testimony was submitted in support of the initial application in this
11 docket. There were two volumes, one addressing rate base, income statement and
12 rate design, and the other addressing cost of capital.

13 **Q. WHAT IS THE PURPOSE OF THIS REBUTTAL TESTIMONY?**

14 A. I will provide rebuttal testimony in response to the direct filings by Staff and
15 RUCO. More specifically, this first volume of my rebuttal testimony relates to rate
16 base, income statement and rate design for LPSCO. I will also address the
17 testimony by intervenor the City of Litchfield Park ("CLP"). In a second, separate
18 volume of my rebuttal testimony, I will also present an update to the Company's
19 requested cost of capital as well as provide responses to Staff and RUCO on the
20 cost of capital and rate of return applied to the fair value rate base, and the
21 determination of operating income.

1 **II. SUMMARY OF LPSCO'S REBUTTAL POSITION**

2 **Q. WHAT ARE THE REVENUE INCREASES FOR THE WATER AND**
3 **WASTEWATER DIVISIONS THAT THE COMPANY IS PROPOSING IN**
4 **THIS REBUTTAL TESTIMONY?**

5 A. For the water division the Company is proposing a total revenue requirement of
6 \$13,637,738, which constitutes an increase in revenues of \$6,759,028, or 98.26%
7 over adjusted test year revenues. For the wastewater division, the Company is
8 proposing a total revenue requirement of \$11,132,993, which constitutes an
9 increase in revenues of \$4,776,618, or 75.15% over adjusted test year revenues.

10 **Q. HOW DO THESE COMPARE WITH THE COMPANY'S DIRECT**
11 **FILING?**

12 A. They are both lower. In the direct filing for the water division, the Company
13 requested a total revenue requirement of \$13,983,148, which required an increase
14 in revenues of \$7,508,146, or 115.96%. In the direct filing for the wastewater
15 division, the Company requested a total revenue requirement of \$11,347,975,
16 which required an increase in revenues of \$4,991,601, or 78.53%.

17 **Q. WHY IS THE REQUESTED REVENUE INCREASE LOWER IN LPSCO'S**
18 **REBUTTAL FILING FOR BOTH DIVISIONS?**

19 A. In its rebuttal filing, LPSCO has adopted a number of adjustments recommended
20 by Staff and/or RUCO, as well as proposed a number of adjustments of its own
21 based on known and measurable changes to the test year.

22 For the water division, the net result of these adjustments is: (1) the
23 Company's proposed operating expenses have increased by \$145,654, from
24 \$6,757,892 in the direct filing to \$6,903,546; and a net decrease of \$422,023 in
25 rate base from the direct filing of \$37,924,592 to \$37,502,569.

1 For the wastewater division, the net result of these adjustments is: (1) the
2 Company's proposed operating expenses have increased by \$12,838, from
3 \$6,192,596 in the direct filing to \$6,205,414; and a net decrease of \$262,019 in rate
4 base from the direct filing of \$28,296,903 to \$28,034,885.

5 In addition, the Company has reduced its recommended cost of equity from
6 12.5% in its direct filing to 12.0% in its rebuttal filing. This has resulted in a lower
7 requested weighted cost of capital from 11.41% in the Company's direct filing to
8 11.0% in its rebuttal filing.

9 **Q. PLEASE SUMMARIZE THE REASON FOR THE DECREASE IN THE**
10 **RATE BASES?**

11 A. For the water division, the Company has proposed a number of rebuttal
12 adjustments to rate base causing a net decrease in rate base. Included among these
13 proposed adjustments is an adjustment to increase plant-in-service to recognize the
14 actual cost of post test year plant, an adjustment to decrease plant-in-service
15 ("PIS") reflecting plant retirements that were not recorded at the end of the test
16 year (including related adjustments to advances-in-aid of construction ("AIAC")
17 and contributions-in-aid of construction ("CIAC")), an increase to PIS for
18 organizational costs approved in last decision, and an increase to PIS to recognize
19 expenses that the Company proposes be capitalized. The net decrease to PIS is
20 \$26,157, the net decrease AIAC is \$8,677, and the net decrease to CIAC is \$7,888.
21 The net rate base impact of these three adjustments is \$(9,562).

22 In addition to the above mentioned adjustments, the Company is proposing
23 an adjustment to accumulated depreciation for the PIS adjustments it recommends.
24 The net decrease to accumulated depreciation is \$78,672. The net rate base impact
25 is \$78,672.

1 The Company is also proposing to reclassify \$2,238,022 of AIAC to
2 Customer Meter Deposits (refundable meter and service line charges) and to
3 remove \$68,685 of security deposits from Customer meter deposits. The net rate
4 base impact of these two adjustments is \$68,685.

5 The Company is also proposing an increase to the water division's deferred
6 income taxes (DIT) of \$426,079 based on its proposed adjustments to PIS and
7 accumulated depreciation as well as to correct an error in its direct filing
8 computation. The net rate base impact of this adjustment is \$(426,079).

9 Finally, the Company is proposing to reduce debt issuance costs from
10 \$134,528 to zero. The net rate base impact of this adjustment is \$(134,528).

11 For the wastewater division, the Company has also proposed a number of
12 rebuttal adjustments to rate base, again leading to a net decrease. Included among
13 these proposed adjustments is an adjustment to decrease PIS reflecting plant
14 retirements that were not recorded at the end of the test year (including related
15 adjustments to AIAC and CIAC), an adjustment to decrease plant-in-service for
16 plant transferred to an affiliate, Black Mountain Sewer Company ("BMSC"), and
17 an increase to PIS to recognize expenses that the Company proposes be capitalized.
18 The net decrease to PIS is \$560,453 , the net decrease to AIAC is \$16,649, and the
19 net decrease to CIAC is \$93,346. The net rate base impact of these three
20 adjustments is \$450,458.

21 In addition to the above mentioned adjustments, the Company is proposing
22 an adjustment to accumulated depreciation for the PIS adjustments it recommends.
23 The net decrease to accumulated depreciation is \$573,316. The net rate base
24 impact is \$573,316.

1 Q. ANYTHING ELSE, MR. BOURASSA?

2 A. Yes, the Company is also proposing an increase to the wastewater division's
3 deferred income taxes (DIT) of \$319,033 based on its proposed adjustments to PIS
4 and accumulated depreciation as well as to correct an error in its direct filing
5 computation. The net rate base impact of this adjustment is \$(319,033)

6 Finally, the Company is proposing to reduce debt issuance costs from
7 \$134,528 to zero. The net rate base impact of this adjustment is \$(134,528).

8 Q. WHAT ARE THE PROPOSED REVENUE REQUIREMENTS AND RATE
9 INCREASES FOR THE COMPANY, STAFF, AND RUCO AT THIS STAGE
10 OF THE PROCEEDING?

11 A. For the water division, the proposed revenue requirements and proposed rate
12 increases are as follows:

	<u>Revenue Requirement</u>	<u>Revenue Incr.</u>	<u>% Increase</u>
13 Company-Direct	\$13,983,148	\$7,508,146	115.96%
14 Staff	\$11,803,750	\$5,328,747	81.82%
15 RUCO	\$10,923,684	\$4,044,974	58.80%
16 Company Rebuttal	\$13,637,738	\$6,759,028	98.26%

17 For the wastewater division, the proposed revenue requirements and
18 proposed rate increases are as follows:

	<u>Revenue Requirement</u>	<u>Revenue Incr.</u>	<u>% Increase</u>
19 Company-Direct	\$11,347,975	\$4,991,601	78.53%
20 Staff	\$9,197,992	\$2,841,618	44.71%
21 RUCO	\$8,169,592	\$1,810,405	28.47%
22 Company Rebuttal	\$11,132,993	\$4,776,618	75.15%

1 **III. RATE BASE**

2 **A. Water Division Rate Base**

3 **Q. WOULD YOU PLEASE IDENTIFY THE PARTIES' RESPECTIVE RATE**
4 **BASE RECOMMENDATIONS FOR THE WATER DIVISION?**

5 A. Yes, for the water division the rate bases proposed by the parties proposing a rate
6 base in the case, the Company, Staff and RUCO, are as follows:

	<u>OCRB</u>	<u>FVRB</u>
Company-Direct	\$37,924,592	\$37,924,245
Staff	\$37,218,182	\$37,218,182
RUCO	\$37,222,878	\$37,222,878
Company Rebuttal	\$37,502,569	\$37,502,569

12 None of the other parties has made a specific proposal regarding rate base,
13 revenues or expenses.

14 **1. Plant-in-Service.**

15 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S PROPOSED**
16 **ORIGINAL COST RATE BASE FOR THE WATER DIVISION, AND**
17 **IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM STAFF**
18 **AND/OR RUCO?**

19 A. The Company's rebuttal rate base adjustments to the water division's OCRB are
20 detailed on rebuttal schedules B-2, pages 3 through 6. Rebuttal Schedule B-2, page
21 1 and 2, summarize the Company's proposed adjustments and the rebuttal OCRB.

22 Rebuttal B-2 adjustment 1, as summarized on Rebuttal Schedule B-2, page
23 2, consists of three adjustments labeled as "A", "B", "C", "D" and "E" on Rebuttal
24 Schedule B-2, page 3.

25 Adjustment A reflects an increase to PIS for post test year plant totaling
26 \$18,805. This plant is for the new arsenic treatment facilities. Staff has made

1 similar adjustments.¹ RUCO has not made a similar adjustment. However, all the
2 parties include post test year arsenic treatment plant costs in rate base.

3 **Q. PLEASE CONTINUE.**

4 A. Adjustment B, of rebuttal B-2 adjustment 1, reflects a decrease to PIS of \$78,879
5 to remove the costs of the Litchfield Greens Booster Station. This booster station
6 has not been in service since 2003. Both Staff and RUCO propose similar
7 adjustments to PIS², however, the Company and RUCO treat the removal of the
8 booster station as a retirement whereas Staff does not.³ I will address this later in
9 my testimony in my discussion of the Company proposed accumulated
10 depreciation adjustments.

11 Adjustment C, of rebuttal B-2 adjustment 1, reflects an increase to PIS of
12 \$19,989 for capitalized expenses. This adjustment reflects an adoption of certain
13 RUCO proposed PIS adjustments for capitalized expenses plus additional amounts.
14 Staff has not proposed any adjustments to PIS for capitalized expenses.

15 **Q. WHAT IS THE DIFFERENCE BETWEEN RUCO AND THE COMPANY**
16 **FOR CAPITALIZED EXPENSES?**

17 A. RUCO proposes to capitalize \$9,714 of expenses.⁴ The detail of RUCO's
18 capitalized expense can be found in RUCO's operating income adjustment number
19 4a.⁵ The Company agrees with RUCO to capitalize amounts related to clocks for
20 well site of \$1,114 and a distribution system evaluation of \$8,600. Additionally,
21 however, the Company proposes to capitalize a well spacing evaluation of \$1,380,
22

23 ¹ See Direct Testimony of Jeffrey M. Michlik for Water Division ("Michlik W Dt.") at 7-8.

24 ² See RUCO Water Schedule 3, page 2 of 4, Adjustment Number 2; Michlik W Dt. at 8-9.

25 ³ *Id.*

26 ⁴ See RUCO Water Schedule 3, page 4 of 4, Adjustment Number 23.

⁵ See RUCO Water Schedule 4, page 5 of 15, Adjustment Number 4a.

1 well rehabilitation costs of \$4,072, and a well impact analysis of \$4,823. These
2 three additional amounts RUCO proposes to be removed from test year operating
3 expenses as non-recurring expense, but not capitalized. The Company believes
4 these costs are legitimately capital related as they reflect expenditures which have a
5 benefit (useful life) of more than one year.

6 **Q. PLEASE CONTINUE.**

7 A. Adjustment D, of rebuttal B-2 adjustment 1, reflects the removal of \$7,072 of
8 2002 office rent included in plant in service. This cost was identified by RUCO in
9 RUCO Schedule 3, page 3 of 4 (Adjustment 16). I have examined the underlying
10 documentation and agree with RUCO on the removal of office rent from plant-in-
11 service.

12 Adjustment E, of rebuttal B-2 adjustment 1, reflects an increase to PIS of
13 \$21,000 for organization cost approved in the last decision. This adjustment
14 reflects an adoption of RUCO proposed PIS adjustment.⁶ Staff has not proposed
15 any adjustment to PIS for organizational costs.

16 **2. Accumulated Depreciation.**

17 **Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO ACCUMULATED**
18 **DEPRECIATION.**

19 A. Rebuttal B-2 adjustment 2, as summarized on Rebuttal Schedule B-2, page 2,
20 consists of three adjustments labeled as "A", "B", and "C" on Rebuttal Schedule B-
21 2, page 4.

22 Adjustment A reflects a decrease to accumulated depreciation for the
23 booster station retirement discussed earlier totaling \$78,879. RUCO makes a
24 similar adjustment.⁷ However, because Staff does not treat the removal of the

25 ⁶ See Direct Testimony of Sonn S. Rowell ("S Rowell Dt.") at 6.

26 ⁷ See RUCO Water Schedule 2, page 2 of 4. Line 19 reflects a previously recorded retirement of \$6,100

1 booster station as a retirement, Staff only removes \$35,223 of related accumulated
2 depreciation rather than the entire original cost of \$78,879 as would be required
3 with a retirement of plant.⁸ In other words, Staff's adjustment is not rate base
4 neutral, like the adjustments made by the Company and RUCO.

5 Adjustment B, of rebuttal B-2 adjustment 2, reflects an increase to
6 accumulated depreciation of \$207 for depreciation related to test year capitalized
7 expenses (half-year convention).

8 Adjustment C, of rebuttal B-2 adjustment 2, reflects a decrease to
9 accumulated depreciation related to the office rent costs removed from PIS as
10 discussed earlier.

11 Adjustment D, of rebuttal B-2 adjustment 2, reflects a correction for
12 accumulated depreciation amounts for the various plant accounts. In its direct
13 filing, the Company inadvertently included accumulated depreciation of account
14 303 – Land and Land Rights totaling \$12,145. This amount has been removed and
15 properly distributed over the depreciable plant accounts. The net adjustment to
16 accumulated depreciation is zero.

17 **3. Deferred Income Taxes (DIT)**

18 **Q. HAS THE COMPANY PROPOSED A REBUTTAL ADJUSTMENT TO**
19 **DEFERRED INCOME TAXES FOR THE WATER DIVISION?**

20 **A.** Yes. In rebuttal B-2 adjustment 3, as shown on Schedule B-2, page 2, the
21 Company's deferred income tax liability is increased by \$426,709 to \$448,160.
22 The increase reflects the Company's rebuttal proposed changes to PIS,

23
24
25 plus the \$78,879 for the booster station. The total accumulated depreciation reduction as shown is \$84,979
(\$6,100 plus \$78,979).

26 ⁸ Michlik W Dt. at 9.

1 accumulated depreciation, AIAC and CIAC. The details of the Company's rebuttal
2 proposed DIT adjustment is shown on Schedule B-2, page 5.

3 **Q. HAVE YOU UPDATED THE APPROACH TO ESTIMATING THE TAX**
4 **VALUE OF ASSETS AT THE END OF THE TEST YEAR?**

5 A. Yes. In its direct filing, the Company rolled forward the tax value at December 31,
6 2007 to September 30, 2008 (the end of the test year). This is a perfectly
7 acceptable approach and should result in similar DIT. As an alternative, the tax
8 value at December 31, 2008 can be rolled backward to September 30, 2008. The
9 Company has chosen use the "roll backward" approach to help eliminate any
10 disputes with Staff regarding the computation of DIT, such as occurred in the
11 recent BMSC rate case.⁹

12 **Q. COULD THE COMPANY HAVE USED THE "ROLL BACKWARD"**
13 **APPROACH TO COMPUTING THE TAX VALUE OF ASSETS IN ITS**
14 **DIRECT FILING?**

15 A. No. The 2008 tax return information was not available because the parent
16 company's consolidated returns had not been finalized at the time of the
17 Company's direct filing.

18 **Q. WHAT IS THE PRIMARY REASON FOR THE INCREASE IN THE**
19 **DEFERRED INCOME TAXES?**

20 A. Recognition of the reclassification of AIAC to Customer Meter Deposits (meter
21 and service installation charges) which are excluded from the AIAC component of
22 the DIT computation. While technically Customer Meter Deposits are AIAC,
23 depreciation is recognized for both book and tax purposes for these amounts
24 because these charges are treated as revenue for tax purposes providing a tax basis

25 ⁹ Transcript from June 25, 2009 hearing at 743:7-744:11; 745:10-15; 749:24-750:17, *Black Mountain*
26 *Sewer Corporation*, Docket No. SW-02361A-08-0609.

1 in the assets these charges fund. As I have explained in other testimony¹⁰,
2 Customer Meter Deposits should be excluded from the AIAC component in the
3 DIT computation for this reason. In the direct filing, I mistakenly assumed that the
4 Company's Security Deposits were Customer Meter Deposits. Had I not made this
5 error in the direct filing, the DIT proposed in direct would have been similar to the
6 DIT the Company now proposes in its rebuttal filing.

7 **Q. HAVE STAFF OR RUCO PROPOSED CHANGES TO THE COMPANY'S**
8 **DEFERRED INCOME TAXES?**

9 A. Staff has proposed the test year unadjusted DIT of \$335,487. Mr. Michlik testifies
10 that the DIT is not known and measurable.¹¹ However, based on Staff testimony in
11 the pending BMSC rate case, where Staff accepted my methodology, I believe that
12 Staff can agree that the Company's DIT approach is correct, even if they disagree
13 with the amount because our numbers do vary.¹²

14 **4. Advances-in-Aid of Construction (AIAC) and Contributions-in-**
15 **Aid of Construction (CIAC).**

16 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO ADVANCES-IN-**
17 **AID OF CONSTRUCTION AND CONTRIBUTIONS-IN-AID OF**
18 **CONSTRUCTION?**

19 A. In rebuttal B-2 adjustment 4, as shown on Schedule B-2, page 2, the Company
20 proposes a decrease to AIAC of \$8,677 and a decrease to CIAC of \$7,888. These
21 adjustments correspond to the proposed PIS retirement adjustment of \$78,879 for
22 the booster station I discussed previously. Staff proposes similar decreases to
23

24 ¹⁰ See Rejoinder Testimony of Thomas J. Bourassa in Docket No. SW-02361A-08-0609 at 9-10.

25 ¹¹ Michlik W Dt. at 11.

26 ¹² Transcript from June 25, 2009 hearing at 702:3-7;739: 739:21-740:7, *Black Mountain Sewer Corporation*, Docket No. SW-02361A-08-0609.

1 AIAC and CIAC. However, RUCO does not. RUCO has not explained why it
2 does not reduce AIAC and CIAC for the plant it agrees to retire.

3 **5. Reclassification of Advances-in-Aid of Construction (AIAC) to**
4 **Customer Meter Deposits.**

5 **Q. PLEASE DISCUSS THE COMPANY'S RECLASSIFICATION OF**
6 **ADVANCES-IN-AID OF CONSTRUCTION TO CUSTOMER METER**
7 **DEPOSITS?**

8 A. In rebuttal B-2 adjustment 5, as shown on Schedule B-2, page 2, the Company
9 proposes a decrease to AIAC of \$2,238,022 and an increase to Customer Meter
10 Deposits of \$2,238,022. As I discussed earlier, Customer Meter Deposits are
11 technically AIAC, but I have typically shown refundable meter and service line
12 charges as a separate component of rate base under the description "Customer
13 Meter Deposits". By doing so, the DIT computation is easier to follow and
14 compute off of the amounts shown in rate base.

15 **6. Removal of Security Deposits.**

16 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO CUSTOMER**
17 **METER DEPOSITS FOR REMOVAL OF SECURITY DEPOSITS?**

18 A. In rebuttal B-2 adjustment 6, as shown on Schedule B-2, page 2, the Company
19 proposes a decrease to Customer Meter Deposits of \$68,685. This amount is for
20 Security Deposits and as I explained earlier, it was an error on my part to include
21 these amounts in rate base because I mistakenly thought these were Customer
22 Meter Deposits. However, Security Deposits are not a rate base component.¹³
23 They are sometimes, and when appropriate, a component of working capital, but
24 since the Company is not proposing working capital they do not belong in rate
25 base.

26 ¹³ See R-14-2-103, Appendix B Rate Base Schedules.

1 **Q. DOES STAFF PROPOSE SECURITY DEPOSITS IN RATE BASE?**

2 A. Yes.¹⁴ In fact, Staff proposes to increase Customer Meter Deposits from \$68,685
3 to 235,683.¹⁵ Again, these are Security deposits, not customer meter deposits
4 which are not included in rate base. RUCO has not proposed a change to Customer
5 Meter Deposits as originally proposed by the Company.

6 **7. Debt Issuance Costs.**

7 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO DEBT**
8 **ISSUANCE COSTS?**

9 A. In rebuttal B-2 adjustment 7, as shown on Schedule B-2, page 2, the Company
10 proposes a remove debt issuance costs from rate base. While the Company
11 believes that debt issuance costs should either be included in rate base or the costs
12 be reflected in the cost of debt, the Company is removing the costs to help
13 eliminate disputes between the parties. Staff and the Company are now in
14 agreement to exclude debt issuance cost from rate base.

15 **8. Remaining Rate Bases Issues.**

16 **Q. PLEASE DISCUSS THE REMAINING RATE BASE ISSUES BETWEEN**
17 **THE PARTIES.**

18 A. The Company does not agree with RUCO's proposed adjustments to PIS for
19 RUCO asserted unsupported capitalized affiliate labor, various invoices that could
20 not be found, and/or costs that were associated with repair work.¹⁶

21 **Q. LET'S START WITH CAPITALIZED AFFILIATE LABOR. PLEASE**
22 **DISCUSS THE ISSUES RUCO HAS WITH THE AFFILIATE LABOR**
23 **COSTS.**

24 ¹⁴ Michlik W Dt. at 10.

25 ¹⁵ *Id.*

26 ¹⁶ S Rowell Dt. at 6.

1 A. First, let me explain that the capitalized affiliate profit was included in capitalized
2 affiliate labor. The profit existed because the Company charged affiliate labor at
3 market rates.¹⁷ In any case, the Company removed the capitalized affiliate profit
4 from plant costs.¹⁸ What remains in the Company's plant costs is capitalized
5 affiliate labor at cost.

6 RUCO finds that the Company did not adequately support the capitalized
7 affiliate labor because RUCO found discrepancies in the amounts included in the
8 Company's B-2 water schedule and information contained in a response to RUCO
9 3.7. The apparent discrepancy is shown in Table 1 on page 20 of Ms. Rowell's
10 direct testimony. Table 1 summarizes the year-to-year capitalized affiliate profit
11 reflected on the Company's B-2 schedule and the information provided by the
12 Company in response to RUCO data request MJR 3.7¹⁹. Ms. Rowell admits that
13 there is not a large discrepancy in total amount of capitalized affiliate profit but still
14 takes issue with the year-to-year amounts. For example, the total capitalized
15 affiliate profit reflected in the Company's B-2 water schedules totals \$279,398 and
16 the total capitalized labor contained in the information provided in response to
17 MJR 3.7 totals \$284,008 - a difference of \$9,221 or 3.3%. But, as explained by the
18 Company in response to RUCO data request 3.6, the capitalized labor is first
19 recorded to construction work-in-progress ("CWIP") and later transfer to PIS when
20 the project is placed into service. So, the year-to-year difference will exist when
21 the labor cost is first capitalized and when labor cost actually is reflected in PIS.

22
23
24 ¹⁷ See Company Rebuttal B-2 water schedule, pages 3.5 to 3.14.

25 ¹⁸ The Company's current practice is to charge capitalized labor at cost.

26 ¹⁹ Those data request responses referenced herein are voluminous, and for this reason are not attached, however, copies were provided to Staff, RUCO, and the other intervenors who requested them.

1 RUCO also finds the capitalized affiliate labor information to be inadequate
2 because the invoices provided in response to Staff data requests 1.52 and 1.77 for
3 affiliate labor contained almost no relevant information.²⁰ However, the detail of
4 the capitalized labor was provided to all of the parties as part of the Company's
5 work papers.²¹ This work paper file contained the name of the NARUC account,
6 the project name, the date, the labor rate, payroll burden, the total cost, and the
7 related affiliate profit.

8 **Q. WHAT ABOUT COSTS FOR VARIOUS INVOICES THAT COULD NOT**
9 **BE FOUND OR WERE FOR REPAIR WORK?**

10 A. According to the notes on RUCO Water Schedule 3, pages 2, 3, and 4, for
11 unsupported costs it appears that RUCO disallows a \$19,000 cost from Yahweh
12 Contracting (2001), three costs from Hughes Supply (2002) for \$5,081, \$4,931, and
13 \$4,931, a cost from Courtesy Chevrolet (2002) for \$14,919, and a cost from W.
14 Fischer (2002) for \$2,750. The balance of the notes on RUCO Schedule 3 appear
15 to indicate that other plant costs RUCO proposes to disallow are related to repairs
16 that RUCO believes should not be capitalized.

17 **Q. LET'S START WITH THE ASSERTED UNSUPPORTED AMOUNTS**
18 **FROM YAHWEH CONTRACTING AND HUGHES SUPPLY. DO YOU**
19 **HAVE A COMMENT?**

20 A. Yes. For the \$19,000 cost from Yahweh Contracting, I have examined the
21 information contained in response to data request JMM 1.52 and have located the
22 invoices supporting this amount. I have included copies of these invoices at **TBJ-**
23 **RB1 (Rate Base – Phase I)**, attached hereto. For the costs from Hughes Supply, I

24 ²⁰ S Rowell Dt. at 18.

25 ²¹ Work paper file "LPSCO CAP Profit from Acquisition to Sept 30 2008.xls." (This work paper file (and
26 any others cited herein) is voluminous and therefore is not attached, however, it was provided to Staff, RUCO, and the other intervenors who requested work papers.)

1 found one invoice, not three separate invoices, contained in the response to JMM
2 1.52 which supports the cost of \$14,943 (\$5,081 plus \$4,931 plus \$4,931).

3 **Q. WHY WERE THERE THREE ENTRIES IN THE PLANT LEDGER BUT**
4 **ONLY ONE INVOICE?**

5 A. Frankly, I don't know and it doesn't matter. The bottom line is that the three plant
6 ledger entries reference the same Hughes Supply invoice number (868500) as
7 \$14,943 invoice. There is no question that this is the invoice supporting the three
8 ledger entries.²²

9 **Q. WHAT ABOUT THE COST FROM COURTESY CHEVROLET?**

10 A. For the \$14,919 cost from Courtesy Chevrolet, I found an invoice contained in
11 response to JMM 1.52 which supports a cost of \$15,225. This is the only 2002
12 invoice from Courtesy Chevrolet for transportation equipment in 2002. The lead
13 sheet (Excel file) reports a cost of \$15,225.²³

14 **Q. DOES RUCO HAVE A JUSTIFIABLE BASIS TO DISALLOW THESE**
15 **COSTS?**

16 A. No.

17 **Q. WHAT ABOUT THE INVOICE FROM W. FISCHER FOR \$2,750?**

18 A. The Company identified this invoice as a missing invoice in its response to JMM
19 1.52. However, the Company believes that this cost should be allowed. JMM 1.52
20 requested plant documentation on nearly \$61 million of plant going back to 2001.
21 Given the breadth of the request and the length of time, I am impressed by the
22 ability of the Company to provide nearly every invoice. As an auditor, I would not
23 find the \$2,750 suspect. The ledger records contain enough information to
24

25 ²² A copy of the invoice is included in **TJB-RB1 (Rate Base – Phase I)**, attached hereto.

26 ²³ A copy of the invoice is included in **TJB-RB1 (Rate Base – Phase I)**, attached hereto.

1 determine the nature of the cost (a forklift) as well as the vendor and other
2 information to determine its reasonableness.

3 **Q. PLEASE COMMENT ON CAPITALIZED REPAIR COSTS?**

4 A. The Company does not agree with RUCO that the repair costs RUCO proposes to
5 disallow should not have been capitalized.²⁴ Repairs that extend the life of
6 equipment and/or benefit the Company over more than one year should be
7 capitalized. This is a generally accepted accounting principle. I have examined a
8 number of the repair invoices and find that the Company was justified in
9 capitalizing these repair costs. RUCO has not provided any reasons other than that
10 these costs related to repairs as the basis for their recommended disallowance. This
11 is not sufficient justification to disallow the capitalization of cost.

12 **Q. LET'S MOVE ON. PLEASE DISCUSS THE DEFERRED REGULATORY**
13 **ASSETS THE COMPANY PROPOSES TO INCLUDE IN RATE BASE.**

14 A. Staff proposes to exclude the Company proposed deferred regulatory assets from
15 rate base.²⁵ As you will recall, there are deferred costs related to potential
16 contamination of the Company's wells. The Company obtained an Accounting
17 Order (Decision 69912 (September 27, 2007)) specifically allowing these cost to be
18 deferred and considered in the Company next rate case. Staff is recommending
19 disallowance because the Company has not yet taken any legal steps to recover
20 these costs.²⁶ However, the Company has taken action as contemplated in the
21 Accounting Order and believes that it is appropriate to begin recovery of the costs
22 incurred through the end of the test year.²⁷ Further, the Company will continue to

23 ²⁴ S Rowell Dt. at 6.

24 ²⁵ Michlik W Dt. at 14.

25 ²⁶ *Id.*

26 ²⁷ Rebuttal Testimony of Greg Sorensen (Phase I) ("Sorensen Rb.") at 11-12.

1 track future costs related to this issue and seek recovery in future rate case. Mr.
2 Sorenson discusses this issue in more detail in his rebuttal testimony.

3 RUCO is proposing to include the deferred regulatory costs in rate base.²⁸
4 However, RUCO reduces the deferred regulatory asset by \$8,256 which RUCO
5 believes is double counted.²⁹ The \$8,256 is one year of amortization that is
6 included in the Company's proposed operating expenses.

7 **Q. HOW IS THE \$8,256 DOUBLE COUNTED?**

8 A. It's not. The \$8,256 the Company proposes to be included in operating expenses
9 for purposes of determining the revenue requirement will not be reflected in rates
10 until new rates are approved. Accordingly, the deferred regulatory cost should not
11 be reduced. Conceptually, it is the same as annualized depreciation. All of the
12 parties reflect a full year of depreciation (annualized depreciation) in their
13 respective proposed operating expenses. The annualized depreciation will be the
14 depreciation expense reflected in new rates when a decision is rendered in the
15 instant case just as the \$8,256 of amortization. The annualized depreciation is
16 higher than the test year actual depreciation because plant additions during the test
17 year received only a half year of depreciation. But, none of the parties propose to
18 increase accumulated depreciation in rate base for the annualized amount of
19 depreciation over and above the actual test year accumulated depreciation. By
20 reducing the deferred regulatory assets by one year of amortization because the
21 Company proposes to include amortization in rates is inconsistent with generally
22 accepted rate making principles.

23
24
25 ²⁸ S Rowell Dt. at 5.

26 ²⁹ *Id.*

1 **B. Wastewater Division Rate Base**

2 **Q. WOULD YOU PLEASE IDENTIFY THE PARTIES' RESPECTIVE**
3 **WASTEWATER RATE BASE RECOMMENDATIONS?**

4 A. Yes, for the Water Division the rate bases proposed by the parties proposing a rate
5 base in the case, the Company, Staff and RUCO, are as follows:

	<u>OCRB</u>	<u>FVRB</u>
Company-Direct	\$28,296,903	\$28,296,903
Staff	\$27,472,314	\$27,472,314
RUCO	\$21,248,950	\$21,248,950
Company Rebuttal	\$28,034,855	\$28,034,855

11 Again, the other parties have not made specific proposals for rate base.

12 **1. Plant-in-Service.**

13 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S PROPOSED**
14 **ORIGINAL COST RATE BASE FOR THE WASTEWATER DIVISION,**
15 **AND IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM**
16 **STAFF AND/OR RUCO?**

17 A. The Company's rebuttal rate base adjustments to the wastewater division's OCRB
18 are detailed on rebuttal schedules B-2, pages 3 through 6. Rebuttal Schedule B-2,
19 page 1 and 2, summarize the Company's proposed adjustments and the rebuttal
20 OCRB.

21 Rebuttal B-2 adjustment 1, as summarized on Rebuttal Schedule B-2, page
22 2, consists of three adjustments labeled as "A", "B", and "C" on Rebuttal Schedule
23 B-2, page 3. Adjustment A, of rebuttal B-2 adjustment 1, reflects a decrease to PIS
24 of \$554,977 to remove the costs of the Wigwam Lift Station, the Bullard Lift
25 Station, and the Litchfield Greens Lift Station. The Wigwam Lift Station, the
26 Bullard Lift Station, we taken out of service in 2002 and the Litchfield Greens Lift

1 Station was taken out of service in 2007. Both Staff and RUCO propose similar
2 adjustments to PIS.³⁰ Again, though, LPSCO and RUCO treat the removal of the
3 lift stations as retirements.³¹

4 Adjustment B, of rebuttal B-2 adjustment 1, reflects a decrease to PIS of
5 \$38,250 for an odor control unit transfer to Black Mountain Sewer Company
6 ("BMSC"). Staff and RUCO propose a similar adjustment except that the amount
7 they propose is \$38,625.³² The Company has provided the parties with further
8 documentation that supports the Company's amount.³³

9 Adjustment C, of rebuttal B-2 adjustment 1, reflects an increase to PIS of
10 \$25,702 for capitalized expenses. This adjustment reflects an adoption of certain
11 RUCO proposed PIS adjustments for capitalized expenses plus additional amounts.
12 Staff has not proposed any adjustments to PIS for capitalized expenses.

13 **Q. WHAT IS THE DIFFERENCE BETWEEN RUCO AND THE COMPANY**
14 **FOR CAPITALIZED EXPENSES?**

15 A. RUCO proposes to capitalize \$17,124 of expenses.³⁴ The detail of RUCO's
16 capitalized expense can be found in RUCO's operating income adjustment number
17 4a.³⁵ The Company agrees with RUCO to capitalize amounts related to generator
18 duct fabrication and installation of \$5,004, installation of a rebuilt pump of \$1,530,
19 the cost of new reinforced strainer baskets of \$4,864, the cost of a fence and

20 ³⁰ See RUCO Wastewater Schedule 3, page 2 of 4, Adjustment Number 3 and 4 which totals \$544,977.
21 According to Staff the total is \$554,977. See Direct Testimony of Jeffery M. Michlik for Wastewater
22 Division ("Michlik WW Dt.") at 7.

23 ³¹ *Id.*

24 ³² See RUCO Wastewater Schedule 3, page 2 of 4, Adjustment Number 5; see Michlik WW Dt. at 8.

25 ³³ Information was provided to Staff and RUCO on November 27, 2009. The documentation is attached
26 hereto as **TJB-RB2 (Rate Base – Phase I)**. The final schedules in the BMSC rate case will reflect the
updated cost and related accumulated depreciation.

³⁴ See RUCO Wastewater Schedule 3, page 2 of 4, Adjustment Number 6 and 7.

³⁵ See RUCO Wastewater Schedule 4, page 5 of 15, Adjustment Number 4a.

1 installation of \$3,725, the cost of odor monitor site plant and pole of \$1,450, and
2 the cost of odor monitor legal description and map of \$550. Additionally,
3 however, the Company proposes to capitalize a filter system repair of \$8,054, and
4 the cost of work on a UV system of \$525. These two additional amounts RUCO
5 proposes to be removed from test year operating expenses as non-recurring
6 expense, but not capitalized. The Company believes these costs are legitimately
7 capital related as they reflect expenditures which have a benefit (useful life) of
8 more than one year.

9 **2. Accumulated Depreciation.**

10 **Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO ACCUMULATED**
11 **DEPRECIATION.**

12 **A.** Rebuttal B-2 adjustment 2, as summarized on Rebuttal Schedule B-2, page 2,
13 consists of three adjustments labeled as "A", "B", and "C" on Rebuttal Schedule B-
14 2, page 4.

15 Adjustment A reflects a decrease to accumulated depreciation for the lift
16 station retirements discussed earlier totaling \$554,977. RUCO makes a similar
17 adjustment although I believe RUCO's adjustment is incorrect.³⁶ However,
18 because Staff does not treat the removal of the lift stations as retirements, Staff
19 only removes \$182,696 of related accumulated depreciation rather than the entire
20 original cost of \$554,977 as would be required with a retirement of plant.³⁷ In this
21 fashion, Staff lowers rate base, as compared to LPSCO and RUCO's plant
22 retirements, which are rate base neutral.

23
24 ³⁶ See RUCO Wastewater Schedule 2, page 2 of 4. Line 19 reflects and 2002 adjustment of \$780,874, but
25 it should be \$790,874 consisting of a previously recorded 2002 retirement of \$332,823 plus \$458,051 for
the 2002 retirement of the Wigwam and Bullard lift stations. Also, the adjustment for the 2007 retirement
of the Litchfield Greens Lift Station totaling \$96,926 is missing.

26 ³⁷ Michlik WW Dt. at 9.

1 Adjustment B, of rebuttal B-2 adjustment 2, reflects a decrease to
2 accumulated depreciation of \$11,040 for depreciation related to the odor control
3 unit transfer to BMSC discussed earlier.

4 Adjustment C, of rebuttal B-2 adjustment 2, reflects a decrease to
5 accumulated depreciation of \$8,003 for cost related to the decommissioning
6 (removal of) the Litchfield Green Lift Station that was recorded in expense during
7 the test year. This is the proper regulatory treatment of these types of costs. As I
8 will discuss, I have removed this cost from test year expenses. RUCO identified
9 this cost as a non-recurring expense for the test year and also removed this cost
10 from operating expenses.³⁸ However, RUCO has not proposed an adjustment to
11 accumulated depreciation.

12 Adjustment D, of rebuttal B-2 adjustment 2, reflects an increase to
13 accumulated depreciation of \$705 for depreciation related to test year capitalized
14 expenses (half-year convention) as discussed previously.

15 **3. Deferred Income Taxes (DIT)**

16 **Q. HAS THE COMPANY PROPOSED A REBUTTAL ADJUSTMENT TO**
17 **DEFERRED INCOME TAXES FOR THE WASTEWATER DIVISION?**

18 A. Yes. In rebuttal B-2 adjustment 3, as shown on Schedule B-2, page 2, the
19 Company's deferred income tax liability is increased by \$319,033 to \$335,020.
20 The increase reflects the Company's rebuttal proposed changes to PIS,
21 accumulated depreciation, AIAC and CIAC. The details of the Company's rebuttal
22 proposed DIT adjustment is shown on Schedule B-2, page 5. As I explained
23 previously, the Company's DIT computation also reflects an updated tax value of
24
25

26 ³⁸ See RUCO Wastewater Schedule 4, page 5 of 19, Operating Income Adjustment 4a.

1 assets starting with 2008 tax information and a correction to the AIAC balance
2 contained in the computation.

3 **Q. HAS STAFF OR RUCO PROPOSED CHANGES TO THE COMPANY'S**
4 **DEFERRED INCOME TAXES FOR THE WASTEWATER DIVISION?**

5 A. As with the water division rate base, Staff has proposed the test year unadjusted
6 DIT of \$335,487 claiming that the DIT amount is not known and measurable.³⁹
7 Again, Staff just agreed with my methodology in the BMSC case and will
8 hopefully do so again in this case.

9 **4. Advances-in-Aid of Construction (AIAC) and Contributions-in-**
10 **Aid of Construction (CIAC).**

11 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO ADVANCES-IN-**
12 **AID OF CONSTRUCTION AND CONTRIBUTIONS-IN-AID OF**
13 **CONSTRUCTION?**

14 A. In rebuttal B-2 adjustment 4, as shown on Schedule B-2, page 2, the Company
15 proposes a decrease to AIAC of \$16,649 and a decrease to CIAC of \$93,346.
16 These adjustments correspond to the proposed PIS retirement adjustment of
17 \$554,977 for the lift stations I discussed previously. Staff proposes similar
18 decreases to AIAC and CIAC. However, RUCO does not. RUCO has not
19 explained why it does not reduce AIAC and CIAC for the retired lift stations.

20 **5. Removal of Security Deposits.**

21 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO CUSTOMER**
22 **METER DEPOSITS FOR REMOVAL OF SECURITY DEPOSITS.**

23 A. In rebuttal B-2 adjustment 6, as shown on Schedule B-2, page 2, the Company
24 proposes a decrease to Customer Meter Deposits of \$68,685. This amount is for
25

26 ³⁹ Michlik WW Dt. at 11.

1 Security Deposits, and as I explained earlier, it was an error on my part to include
2 these amounts in rate base because I mistakenly thought these were Customer
3 Meter Deposits.

4 **Q. DOES STAFF AND/OR RUCO PROPOSE SECURITY DEPOSITS IN RATE**
5 **BASE?**

6 A. Yes.⁴⁰ In fact, Staff proposes to increase Customer Meter Deposits from \$68,685
7 to 81,798.⁴¹ Again, these are Security deposits, not customer meter deposits which
8 are not included in rate base. RUCO has not proposed a change to Customer Meter
9 Deposits as originally proposed by the Company.

10 **6. Debt Issuance Costs.**

11 **Q. PLEASE DISCUSS THE COMPANY'S ADJUSTMENT TO DEBT**
12 **ISSUANCE COSTS.**

13 A. In rebuttal B-2 adjustment 7, as shown on Schedule B-2, page 2, the Company
14 proposes a remove debt issuance costs from rate base for the same reason I
15 indicated earlier - to help eliminate disputes.

16 **7. Remaining Rate Bases Issues.**

17 **Q. PLEASE DISCUSS THE REMAINING RATE BASE ISSUES BETWEEN**
18 **THE PARTIES.**

19 A. The Company does not agree with RUCO's proposed adjustments to PIS for
20 RUCO asserted unsupported capitalized affiliate labor and/or costs that were
21 associated with repair work.⁴²

22
23
24

⁴⁰ Michlik WW Dt. at 9.

25 ⁴¹ *Id.*

26 ⁴² S Rowell Dt. at 12.

1 Q. LET'S START WITH CAPITALIZED AFFILIATE LABOR. PLEASE
2 DISCUSS THE ISSUES RUCO HAS WITH THE AFFILIATE LABOR
3 COSTS.

4 A. I have already explained the nature of the capitalized labor costs earlier. As with
5 the water division, RUCO finds the Company did not adequately support the
6 capitalized affiliate labor for the Wastewater Division because it found
7 discrepancies in the amounts included in the Company's B-2 wastewater schedule
8 and information contained in a response to RUCO 3.7. The apparent discrepancy
9 is shown in Table 1 on page 20 of Ms. Rowell's direct testimony. Table 1
10 summarizes the year-to-year capitalized affiliate profit reflected on the Company's
11 B-2 wastewater schedule and the information provided by the Company in
12 response to RUCO data request MJR 3.7. But Ms. Rowell admits that there isn't a
13 large discrepancy in the total amount of capitalized affiliate profit but takes issue
14 with the year-to-year amounts.

15 For example, the total capitalized affiliate profit reflected in the Company's
16 B-2 water schedules totals \$651,163 and the total capitalized labor contained in the
17 information provided in response to MJR 3.7 totals \$655,330 - a difference of
18 \$4,167 or 0.6%. But, as explained by the Company in response to RUCO data
19 request 3.6, the capitalized labor is first recorded to construction work-in-progress
20 ("CWIP") and later transferred to PIS when the project is placed into service. So,
21 the year-to-year difference will exist when the labor cost is first capitalized and
22 when labor cost actually is reflected in PIS.

23 RUCO also finds the capitalized affiliate labor information to be inadequate
24 because the invoices provided in response to Staff data requests 1.52 and 1.77 for
25 affiliate labor contained almost no relevant information.⁴³ However, as explained

26 ⁴³ S Rowell Dt. at 18.

1 above, the detail of the capitalized labor was provided to all of the parties as part of
2 the Company's work papers and contained all the needed information.⁴⁴

3 **Q. PLEASE COMMENT ON THE CAPITALIZED REPAIR COSTS?**

4 A. The Company does not agree with RUCO that the repair costs is proposes to
5 disallow should not have been capitalized. I have discussed the reasons why earlier
6 in my testimony and will not repeat them here.

7 **Q. OK. LET'S MOVE ON. RUCO IS PROPOSING TO REMOVE \$1,230,049**
8 **FROM PLANT IN SERVICE TO ADJUST FOR DIFFERENCES IN THE**
9 **STARTING BALANCE OF PLANT-IN-SERVICE. DO YOU HAVE A**
10 **COMMENT?**

11 A. Yes. RUCO proposes to eliminate \$1,230,049 of cost for plant because it believes
12 its recommended plant balance should be the starting balance from the last case.⁴⁵
13 However, the evidence contradicts RUCO's position. The \$1,230,049 of cost was
14 related to a sewer line that was part of CWIP at the end of the last test year, but was
15 actually placed into service during the test year.⁴⁶ As a result, RUCO's adjustment
16 effectively eliminates plant found by Staff in the last rate case to be used and useful
17 and included in rate base.⁴⁷ I have included as a copy of the rate base schedule
18 from Staff's surrebuttal filing in the last rate case as **TJB-RB3 (Rate Base – Phase**
19 **I)**, which schedule matches the Company's starting balance of wastewater division
20 PIS and accumulated depreciation as found on the Company's wastewater
21 Schedule B-2, page 3.4.

22
23 ⁴⁴ Work paper file "LSPCo CAP Profit from Acquisition to Sept30 2008.xls."

24 ⁴⁵ S Rowell Dt. at 11.

25 ⁴⁶ See Rebuttal Testimony of Dan L. Neidlinger in Docket W-01428A-01-0487 and SW-01428A-01-0487
26 at 7; Rebuttal Testimony of David W. Ellis in Docket W-01428A-01-0487 and SW-01428A-01-0487 at 3.

⁴⁷ See Surrebuttal Testimony of Roger D. Nash in Docket W-01428A-01-0487 and SW-01428A-01-0487
at 2.

1 **Q. WASN'T THE LAST RATE CASE BASED ON A SETTLEMENT?**

2 A. Yes, and, I agree with RUCO that it was difficult to determine the starting balance
3 of plant for the wastewater division as a result. But, the best evidence of a starting
4 balance of plant is Staff's schedule.⁴⁸ RUCO's starting balance of plant in the last
5 case was not the result of over a dispute about whether the plant existed or its cost,
6 but rather a dispute about whether the costs should be included in rate base.⁴⁹

7 **Q. ARE THERE ANY OTHER REMAINING RATE BASE DISPUTES WITH**
8 **RUCO.**

9 A. Yes. RUCO proposes to exclude \$36,500 of cost related to work performed by
10 Pacific Advanced Civil Engineering related to the permitting of the Palm Valley
11 Water Reclamation Facility ("PVWRF").⁵⁰ The Company disagrees as addressed
12 in more detail in the rebuttal testimony of Mr. Sorenson.⁵¹

13 **Q. DOESN'T RUCO PROPOSE TO REMOVE NEARLY \$3.5 MILLION OF**
14 **COST RELATED TO THE PVWRF?**

15 A. Yes.⁵² RUCO recommends that 50% of the cost be disallowed because these costs
16 are related to correcting design problems with the PVWRF.⁵³ The Company
17 disagrees with RUCO. This issue is also addressed in more detail in the rebuttal
18 testimony of Mr. Sorenson.⁵⁴

19
20
21 ⁴⁸ Both Staff and the Company ultimately agreed that the full \$1,230,049 was useful and useful plant in
service for the test year in the last case.

22 ⁴⁹ See Surrebuttal Testimony of Timothy J. Coley in Docket W-01428A-01-0487 and SW-01428A-01-
0487 at 7.

23 ⁵⁰ S Rowell Dt. at 11-12.

24 ⁵¹ Sorensen Rb. at 18-20.

25 ⁵² *Id.* at 13.

26 ⁵³ See Direct Testimony of Mathew Rowell ("M Rowell Dt.") at 4-6.

⁵⁴ Sorensen Rb. at 14-15.

1 **Q. PLEASE RESPOND TO RUCO'S RECOMMENDATION TO INCREASE**
2 **CIAC FOR THE WASTEWATER DIVISION BY \$597,670.**

3 A. RUCO recommends increasing the wastewater division CIAC balance by 597,670
4 because the Company failed to include this amount in rate base.⁵⁵ However,
5 RUCO is incorrect. The \$597,670 was properly included in the water division rate
6 base. As evidenced by the Company's response to Staff data request JMM 1.28,
7 the \$570,670 was related to expired AIAC (refundable line extension agreement).

8 **Q. BUT DIDN'T THE COMPANY'S RESPONSE TO STAFF DATA REQUEST**
9 **JMM 1.27 INDICATE THAT THE WASTEWATER DIVISION'S CIAC**
10 **BALANCE WAS \$19,334,802 AND NOT \$18,737,132 AS SHOWN ON THE**
11 **COMPANY'S WASTEWATER RATE BASE SCHEDULE?**

12 A. Yes. The response to JMM 1.27 indicated the CIAC balance for the wastewater
13 division was higher by \$597,670. But JMM 1.27 also indicated that the water
14 division CIAC was lower by \$597,670.

15 **Q. PLEASE EXPLAIN.**

16 A. The response to JMM 1.27 also indicated that the water division's CIAC balance
17 was \$2,506,398 and not \$3,104,068 as shown on the Company's water division rate
18 base schedule in its direct filing. Putting aside the fact that the \$597,670 is related
19 to water division CIAC, if RUCO were consistent, it should have recommended
20 that the water division CIAC be decreased by \$597,670 and that the wastewater
21 division CIAC be increased by \$597,670. But, again, the Company's respective
22 rate base schedules for the water and wastewater division already reflect the correct
23 level of CIAC and do not need to be adjusted.

24
25
26 ⁵⁵ S Rowell Dt. at 11.

1 **IV. INCOME STATEMENT**

2 **A. Water Division Revenue and Expenses.**

3 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S WATER DIVISION**
4 **PROPOSED ADJUSTMENTS TO REVENUES AND EXPENSES AND**
5 **IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM STAFF**
6 **AND/OR RUCO?**

7 A. The Company rebuttal adjustments for the Water Division are detailed on Rebuttal
8 Schedule C-2, pages 1-14. The rebuttal income statement with adjustments is
9 summarized on Rebuttal Schedule C-1, page 1-2.

10 Rebuttal adjustment 1 increases depreciation expense. Depreciation expense
11 is lower primarily due to the impacts of the Company proposed rebuttal
12 adjustments to plant-in-service. The difference in depreciation expense compared
13 to RUCO is primarily due to a difference in the respective parties proposed PIS.
14 The difference in depreciation expense compared to Staff is primarily due to a
15 difference in the respective party's computation of CIAC amortization. Staff uses
16 a composite depreciation rate for all depreciable PIS where as the Company uses
17 account specific rates for the plant accounts funded with CIAC. The Company
18 disagrees with Staff's method of computing amortization in the instant case.

19 **Q. WHY?**

20 A. Composite depreciation rates should be used when the CIAC amounts have not
21 been specifically identified with the plant accounts. Historically, the Company has
22 tracked its CIAC with the specific plant accounts and there is no reason to change
23 the practice of using the depreciation rates for these plant accounts to amortize
24 CIAC in the instant case.

1 **Q. PLEASE CONTINUE.**

2 Rebuttal adjustment number 2 increases property tax expense and reflects the
3 rebuttal proposed revenues. Staff and the Company are in agreement on the
4 method of computing property taxes. This method utilized the ADOR formula and
5 inputs two years of adjusted revenues plus one year of proposed revenues. I
6 computed the property taxes based on the Company's proposed revenues, and then
7 used the property tax rate and assessment ratio that was used in the direct filing.

8 Amazingly, RUCO uses the test year revenues and two historical years of
9 revenues (2006 and 2007). This is the same method RUCO argued for nearly a
10 decade, but recently appeared to drop in the face of uniform rejection by the
11 Commission. The Commission determines property taxes using historical and
12 projected revenues.⁵⁶

13 **Q. IS RUCO'S POSITION CONSISTENT WITH THEIR POSITION IN THE**
14 **RECENT BLACK MOUNTAIN SEWER CASE?**

15 A. No. In that case RUCO proposed that property taxes be computed using one year
16 of proposed revenues and two years of historical revenues.

17 **Q. HAS RUCO EXPLAINED WHY IT IS NOW GOING BACK TO A**
18 **METHOD THAT HAS BEEN REJECTED IN THE PAST?**

19 A. No.⁵⁷

20 **Q. PLEASE CONTINUE.**

21 A. Rebuttal adjustment number 3 removes meals and entertainment expenses
22 from miscellaneous expense. The adjustment reflects the Company acceptance of
23
24

25 ⁵⁶ See, e.g., Decision No. 64282 at 12-13; Decision No. 65350 at 15-16.

26 ⁵⁷ S Rowel Dt. at 9 and 17.

1 Staff proposed adjustment for meals and entertainment expenses.⁵⁸ RUCO has not
2 proposed a similar adjustment.

3 Rebuttal adjustment number 4 increases bad debt expense reflecting a
4 normalized level of bad debt expense proposed by Staff.⁵⁹ RUCO has not proposed
5 a similar adjustment.

6 Rebuttal adjustment number 5 normalizes fuel for power production
7 expenses and reduces expense by \$20,309. RUCO proposes to disallow \$56,381 of
8 fuel for power expenses incurred during the test year because they are non-
9 recurring. However, the Company believes these are typical and recurring
10 expenses and seeks to help minimize issues between the parties by normalizing the
11 expense.

12 Rebuttal adjustment number 6 reflects the adoption of RUCO proposed
13 adjustment to revenues for the City of Goodyear ("Goodyear"). While the
14 Company believes that Goodyear will not be a customer in the future, at the present
15 time Goodyear is still receiving service.

16 Rebuttal adjustment number 7 reduces chemical expense for expenses that
17 occurred outside the test year. RUCO proposes a similar adjustment totaling
18 \$2,309.⁶⁰ However, RUCO's adjustment contains errors. A review of the invoices
19 identified by RUCO⁶¹ and the Company's general ledger⁶² indicates that all of the
20 amounts with the exception of a \$305 invoice from Hills Brothers Chemicals are
21 reversed out and are not included in the test year expense. Staff does not propose a
22 similar adjustment.

23 ⁵⁸ Michlik W Dt. at 20.

24 ⁵⁹ *Id.* at 20-21.

25 ⁶⁰ S Rowell Dt. at 7.

26 ⁶¹ See RUCO Water Schedule 3, page 4 of 15.

⁶² See Company response to Staff data request JMM 1.40.

1 Rebuttal adjustment number 8 reduces contractual services –other expense
2 by \$19,989 for Company proposed capitalized expenses. RUCO makes a similar
3 adjustment for capitalized expenses totaling \$9,714.⁶³ RUCO also proposes to
4 remove from expense an additional \$19,912 for non-recurring expenses.⁶⁴ The
5 Company's adjustment of \$19,989 includes \$10,275 of the RUCO's asserted non-
6 recurring expenses.

7 **Q. WHAT IS THE REMAINING AMOUNT OF EXPENSE IN DISPUTE?**

8 A. The total expense RUCO recommends be disallowed in operating expenses is
9 \$29,625 (\$9,814 plus \$19,912). The Company recommends \$19,989 of these costs
10 be removed from expense and capitalized leaving a difference of \$9,636 (\$29,625
11 minus \$19,989). The Company believes the remaining \$9636 reflects the nature
12 and level of expense the Company expects to incur on a going forward basis and
13 therefore the costs should be allowed in operating expense.

14 Adjustment number 9 reduces contractual services – other which reflect a
15 portion of the \$8,451 RUCO seeks to remove from expense.⁶⁵

16 **Q. WHAT ARE THE EXPENSES INCLUDED IN RUCO'S PROPOSED**
17 **ADJUSTMENT THAT THE COMPANY AGREES TO REMOVE?**

18 A. The Company agrees to remove the allocated portion expenses related to a holiday
19 party and the costs for Diamondbacks games. RUCO seeks to exclude the costs of
20 dues and memberships, business publications, and travel. The Company believes
21 these are prudent and necessary expenses.

24 ⁶³ See RUCO Water Schedule 3, page 5 of 15, lines 1-4.

25 ⁶⁴ See RUCO Water Schedule 3, page 5 of 15, lines 7-15.

26 ⁶⁵ See RUCO Water Schedule 3, page 7 of 15.

1 **Q. PLEASE CONTINUE.**

2 A. Rebuttal adjustment 10 reflects an increase to the allocated affiliate central office
3 costs and reflects actual cost incurred by the central office for the test year of
4 \$5,125,785.⁶⁶ The Company's adjustment is detailed on Rebuttal Schedule C-2,
5 page 11.

6 **Q. DID THE COMPANY REMOVE THE COSTS OF CHARITABLE**
7 **CONTRIBUTIONS, ENTERTAINMENT EXPENSES, AWARDS, AND IRS**
8 **PENALTIES FROM ITS CENTRAL OFFICE ALLOCATION POOL?**

9 A. Yes. The Company removed \$191,828 of costs Staff recommends to be disallowed
10 in operating expenses.⁶⁷

11 **Q. PLEASE COMMENT ON STAFF'S ADJUSTMENT FOR ALLOCATED**
12 **CENTRAL OFFICE COSTS?**

13 A. Staff is recommending an expense level of \$1,595 based on an adjusted central
14 office allocation pool of \$113,224 and an allocation factor of 1.41 percent. Staff's
15 allocation method and analysis of the benefits to LPSCO's water and wastewater
16 divisions is flawed. Staff eliminates 97 percent of the central office cost allocation
17 pool before allocating the remaining 3 percent to LPSCO's water and wastewater
18 divisions. As I testified in the pending BMSC rate case, APIF incurs the central
19 office cost for the benefit of its subsidiary businesses. APIF provides management,
20 financial, audit, tax, legal resources, and corporate governance for all of its
21 subsidiary businesses that would otherwise be incurred if they were a stand-alone
22 business. In other words, but for the subsidiary business APIF would not have
23 central office costs. But the real benefit under the APIF model is there enormous
24 economies of scale that are achieved.

25 ⁶⁶ See Company response to Staff data request JMM 5.5.

26 ⁶⁷ Michlik W Dt. at 18.

1 **Q. PLEASE COMMENT ON RUCO'S ADJUSTMENT TO ALLOCATED**
2 **CENTRAL OFFICE COSTS?**

3 A. In its direct testimony, RUCO recommends disallowing all the central office costs
4 for the water division.⁶⁸ RUCO agrees with the cost allocation methodology for
5 Liberty Water, but disallows all of the cost allocation from Algonquin Power Trust
6 ("APT").⁶⁹ RUCO bases its recommended disallowance of central office cost
7 allocation on several factors. First, RUCO claims it could not reconcile the
8 Company indicated central office cost allocation of \$250,979 with the amounts
9 based on the Company's billings for central office costs of \$291,708.⁷⁰ Second,
10 RUCO claims that during the test year, the Company increased its central office
11 cost billings without providing any explanation.⁷¹ Third, RUCO asserts the central
12 office cost invoices do not contain sufficient detail.⁷² Finally, RUCO claims that
13 the Company has not sufficiently explained the central office costs to determine
14 whether the services provided are necessary for the provision of service of
15 LPSCO.⁷³

16 **Q. PLEASE RESPOND TO RUCO'S CRITICISMS OF THE CENTRAL**
17 **OFFICE COST ALLOCATION?**

18 A. With respect to the first criticism, RUCO is correct that the actual Water Division
19 central office costs for the test year were \$291,708. The \$250,979 was based on a
20 2008 calendar year budget. RUCO's inability to reconcile those numbers stems
21 from RUCO's failure to understand that those numbers apply to a different time

22 ⁶⁸ M Rowell Dt. at 13.

23 ⁶⁹ M Rowell Dt. at 12-13.

24 ⁷⁰ *Id.*

25 ⁷¹ *Id.*

26 ⁷² *Id.*

⁷³ *Id.*

1 periods. As noted, the \$250,979 amount is for the budgeted central office costs for
2 the 2008 calendar year (January through December 2008) whereas the \$291,708
3 amount is for billed central office costs during the test year (September 2007-
4 October 2008). As I testified earlier, the central office costs have now been trued-
5 up to the actual test year central office costs incurred. Based on the Company's
6 rebuttal adjustment discussed previously, the correct allocation based on actual test
7 year cost is \$310,479.⁷⁴

8 **Q. PLEASE RESPOND TO RUCO'S OTHER CRITICISMS OF THE**
9 **CENTRAL OFFICE COST ALLOCATION?**

10 A. RUCO's second criticism is without merit. On this point, RUCO asserts that it
11 failed to explain or justify the increase in management fees from its affiliates.
12 RUCO admits that that the new method of cost allocation was not through the test
13 year.⁷⁵ The increase in the central office management fees during the test year is
14 irrelevant because the increased fees were the result of increased costs. As I
15 discussed previously, the actual central office cost pool for the test year is over \$5
16 million and the water division's allocated cost is much higher. It would appear that
17 the management fee increase was justified since the allocated central office cost of
18 \$310,479 is much higher than the test year fees of \$291,708.

19 RUCO's third and fourth criticisms also are without merit. I have examined
20 the documentation and there is sufficient detail to determine the nature and
21 amounts of the cost incurred by APT for the benefit of its subsidiaries.⁷⁶ A full
22 description of the cost categories was also provided to RUCO.⁷⁷

23
24 ⁷⁴ See Rebuttal Schedule C-2, page 11, Adjustment Number 11.

25 ⁷⁵ *Id.* at 9.

26 ⁷⁶ See Company response to Staff data request JMM 5.5.

⁷⁷ See Company response to Staff data request JMM 5.3.

1 **Q. ARE THERE ANY APPLICABLE REGULATORY GUIDELINES**
2 **RELATING TO SUPPORTING ITS AFFILIATE COST ALLOCATIONS**
3 **AND DID LPSCO FOLLOW THEM?**

4 **A.** Yes, and in my opinion, LPSCO complied with the applicable regulatory
5 guidelines in supporting and detailing its affiliate cost allocations. Specifically, I
6 believe that LPSCO complied with the National Association of Regulatory Utility
7 Commissioners ("NARUC") 1996 Uniform System of Accounts for Class A Water
8 Utilities, which states in paragraph 15 that "Each utility shall keep its accounts and
9 records so as to be able to furnish accurately and expeditiously statements of all
10 transactions with associated companies. The statements may be required to show
11 the general nature of the transactions, the amounts involved therein and the
12 amounts included in each account prescribed herein with respect to such
13 transactions." In my opinion, LPSCO's affiliate cost documentation meets the
14 NARUC System of Accounts. I also believe the LPSCO's affiliate cost allocation
15 methodology meets the NARUC Guidelines for Cost Allocations and Affiliate
16 Transactions.

17 **Q. PLEASE CONTINUE.**

18 **A.** Rebuttal adjustment 11 reflects the synchronization of interest expense with the
19 Company's proposed rate base.

20 Rebuttal adjustment 12 reflects income taxes at Company's proposed rates.

21 **1. Remaining Revenue and Expense Issues.**

22 **Q. PLEASE IDENTIFY ANY REMAINING ISSUES IN DISPUTE WITH**
23 **RUCO AND/OR STAFF.**

24 **A.** RUCO recommends that \$153,174 of allocated costs for the Water Division from
25 Liberty Water (formerly AWS) be disallowed.⁷⁸ One of the reasons RUCO uses to

26 ⁷⁸ M Rowell Dt. at 12.

1 justify the disallowance is that the Costs cannot be reconciled to the test year.⁷⁹
2 However, these Liberty Water allocated costs do reconcile. Let me explain. In
3 Table 3 on page 10 of Mr. Rowell's direct testimony, Mr. Rowell shows the total of
4 the allocated contract services for the Water Division from Liberty Water from as
5 \$1,520,179. In addition, Mr. Rowell shows the Recon fees to 4-factor for the
6 Water Division as \$728,574 which is also found in Table 3 but located on page 11
7 of his testimony. The two amounts total \$2,248,753 which is the amount recorded
8 in the test year for the Water Division. Below is the detail of the test year recorded
9 costs:⁸⁰

<u>Account/Description</u>	<u>Amount</u>
8600-2-0100-69-5200-0110 Contractual Services-AWS	510,643.02
8600-2-0100-69-5200-0120 Admin Allocation – AWS	728,574.18
8600-2-0100-50-5200-0110 Contractual Services-AWS	<u>1,009,535.94</u>
Total	2,248,753.14

13
14 In the Company direct filing, these costs were trued-up to the new cost allocation
15 methodology cost of \$1,942,519 by a reduction to the test year expenses of
16 \$306,234.⁸¹ The \$1,942,519 is the same amount contained the documentation
17 provided to RUCO.⁸²

18 **Q. WHAT OTHER REASON DOES RUCO PROVIDE FOR**
19 **RECOMMENDING DISALLOWANCE OF \$153,714 OF ALLOCATED**
20 **LIBERTY WATER (AWS) COSTS?**

21
22 ⁷⁹ *Id.*

23 ⁸⁰ See Company work paper file "Item #23 LPSCO Income Statement Comp by Segment 2005 2006 2007
24 2008.xls" provided in response to Staff data request JMM 2-10.

25 ⁸¹ See Direct Schedule C-2, page 12, Adjustment Number 11.

26 ⁸² See also Company response to RUCO data request MJR 3.3(b).

1 A. That the Company did not provide an explanation of what the allocations were.⁸³
2 However, RUCO was provided an explanation of costs and how the various types
3 of cost are allocated under the new methodology.⁸⁴ Put simply, RUCO claims that
4 LPSCO did not explain exactly what costs were included in the "Recon fees to 4
5 factor." For that reason, RUCO disallowed the \$153,714. Again, however, RUCO
6 and Mr. Rowell simply did not understand that the "Recon fees to 4 factor" was a
7 reconciliation and true-up of the 4 factor formula to the entire test year. In his
8 deposition, Mr. Rowell agreed that it is appropriate for LPSCO to true up and
9 reconcile the 4 factor data to the actual costs incurred.

10 **Q. PLEASE COMMENT ON DIFFERENCES BETWEEN THE PARTIES ON**
11 **RATE CASE EXPENSE.**

12 A. At this stage of the proceeding both the Company and Staff are proposing rate case
13 expense of \$210,000 for the water division and the same amount for wastewater.
14 This is consistent with the Company's original estimate of a total of \$420,000 for
15 the entire case. However, Staff is recommending an amortization period of five
16 years and an annual level of expense in the test year of \$42,000.⁸⁵ Mr. Michlik
17 justifies his amortization period because the Company has not filed a case in nine
18 years.⁸⁶ However, as Mr. Sorensen testifies, that is not likely to happen again.⁸⁷
19 This places authorized rate case expense at risk for non-recovery if the Company
20 were to come in before Staff's amortization period has passed.
21
22

23 ⁸³ M Rowell Dt. at 12.

24 ⁸⁴ See Company response to RUCO MJR 2.5.

25 ⁸⁵ Michlik Dt. at 18.

26 ⁸⁶ *Id.*

⁸⁷ Sorensen Rb. at 10.

1 Q. WHAT ABOUT RUCO'S RECOMMENDATION ON RATE CASE
2 EXPENSE?

3 A. RUCO is recommending a \$50,000 annual level of rate case expense.⁸⁸ However, I
4 do not know how RUCO determined that amount since there is no testimony or a
5 detail schedule showing the computation. As a result, I am unable to respond at
6 this time except to say that amount is too low.

7 B. Wastewater Division Revenue and Expenses.

8 Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S WASTEWATER
9 DIVISION PROPOSED ADJUSTMENTS TO REVENUES AND EXPENSES
10 AND IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM
11 STAFF AND/OR RUCO?

12 A. The Company rebuttal adjustments for the Wastewater Division are detailed on
13 Rebuttal Schedule C-2, pages 1-14. The rebuttal income statement with
14 adjustments is summarized on Rebuttal Schedule C-1, page 1-2.

15 Rebuttal adjustment 1 increases depreciation expense. Depreciation expense
16 is lower primarily due to the impacts of the Company proposed rebuttal
17 adjustments to plant-in-service. The difference in depreciation expense compared
18 to RUCO is primarily due to a difference in the respective parties proposed PIS.
19 The difference in depreciation expense compared to Staff is primarily due to a
20 difference in the respective party's computation of CIAC amortization. Staff uses
21 a composite depreciation rate for all depreciable PIS where as the Company uses
22 account specific rates for the plant accounts funded with CIAC. The Company
23 disagrees with Staff's method of computing amortization in the instant case.

24
25
26 ⁸⁸ See RUCO Water Schedule 4, page 1 of 15.

1 **Q. WHY?**

2 A. Composite depreciation rates should be used when the CIAC amounts have not
3 been specifically identified with the plant accounts. Historically, the Company has
4 tracked its CIAC with the specific plant accounts and there is no reason to change
5 the practice of using the depreciation rates for these plant accounts to amortize
6 CIAC in the instant case.

7 **Q. PLEASE CONTINUE.**

8 Rebuttal adjustment number 2 increases property tax expense and reflects the
9 rebuttal proposed revenues. All the parties are in agreement on the method of
10 computing property taxes. This method utilized the ADOR formula and inputs two
11 years of adjusted revenues plus one year of proposed revenues. I computed the
12 property taxes based on the Company's proposed revenues, and then used the
13 property tax rate and assessment ration that was used in the direct filing.

14 Rebuttal adjustment number 3 removes contractual services costs (Aerotek)
15 that are related to BMSC's cost of service.

16 Rebuttal adjustment number 4 removes meals and entertainment expenses
17 from miscellaneous expense. The adjustment reflects the Company acceptance of
18 Staff proposed adjustment for meals and entertainment expenses.⁸⁹ RUCO has not
19 proposes a similar adjustment.

20 Rebuttal adjustment number 5 reduces bad debt expense reflecting a
21 normalized level of bad debt expense proposed by Staff.⁹⁰ RUCO has not proposed
22 a similar adjustment.

23 Rebuttal adjustment number 6 reduces contractual services –other expense
24 by \$33,705 for Company proposed capitalized expenses. RUCO makes a similar

25 ⁸⁹ Michlik WW Dt. at 18.

26 ⁹⁰ *Id.* at 19.

1 adjustment for capitalized expenses totaling \$17,124.⁹¹ RUCO also proposes to
2 remove from expense an additional \$16,582 for non-recurring expenses.⁹²
3 RUCO'S total adjustment of \$33,706 (\$17,124 plus \$16,582) is substantially the
4 same as the Company's adjustment of \$33,705. However, RUCO also proposes to
5 remove \$19,784 for effluent clean-up⁹³, \$16,428 for grounds maintenance and
6 sewer line cleaning⁹⁴ which the Company disagrees. The Company believes the
7 \$19,784 and the \$16,428 reflect the nature and level of expense the Company
8 expects to incur on a going forward basis and therefore the costs should be allowed
9 in operating expense.

10 Adjustment number 7 reduces contractual services – other for rate case costs
11 which are already included in rate case expense. RUCO has proposed a similar
12 adjustment⁹⁵ and the Company is substantial agreement with the Company.

13 Adjustment number 9 reduces contractual services – other which reflect a
14 portion of the \$3,128 RUCO seeks to remove from expense.⁹⁶

15 **Q. WHAT ARE THE EXPENSES INCLUDED IN RUCO'S PROPOSED**
16 **ADJUSTMENT THAT THE COMPANY AGREES TO REMOVE?**

17 **A.** The Company agrees to remove the allocated portion of expenses related to a
18 holiday party and the costs for Diamondbacks games. RUCO seeks to exclude the
19 costs of dues and memberships, business publications, and travel. The Company
20 believes these are prudent and necessary expenses.

21
22 ⁹¹ See RUCO Wastewater Schedule 3, page 5 of 19, lines 1-8.

23 ⁹² See RUCO Wastewater Schedule 3, page 5 of 19, lines 11-15.

24 ⁹³ See RUCO Wastewater Schedule 3, page 5 of 19, lines 18-20.

25 ⁹⁴ See RUCO Wastewater Schedule 3, page 5 of 19, lines 23-26.

26 ⁹⁵ See RUCO Wastewater Schedule 3, page 5 of 19, lines 29-32.

⁹⁶ See RUCO Water Schedule 3, page 7 of 15.

1 **Q. PLEASE CONTINUE.**

2 A. Rebuttal adjustment 10 reflects an increase to the allocated affiliate central office
3 costs and reflects actual cost incurred by the central office for the test year of
4 \$5,125,785.⁹⁷ The central office costs reflected in the actual test year expenses
5 were based on a budget of approximately \$3,950,800. The Company's adjustment
6 is detailed on Rebuttal Schedule C-2, page 10.

7 **Q. DID THE COMPANY REMOVE THE COSTS OF CHARITABLE**
8 **CONTRIBUTIONS, ENTERTAINMENT EXPENSES, AWARDS, AND IRS**
9 **PENALTIES FROM ITS CENTRAL OFFICE ALLOCATION POOL?**

10 A. Yes. The Company removed \$191,828 of costs Staff recommends to be disallowed
11 in operating expenses.⁹⁸

12 **Q. PLEASE COMMENT ON STAFF'S ADJUSTMENT FOR ALLOCATED**
13 **CENTRAL OFFICE COSTS?**

14 A. Staff is recommending an expense level of \$1,595 based on an adjusted central
15 office allocation pool of \$113,224 and an allocation factor of 1.41 percent. Staff's
16 allocation method and analysis of the benefits to LPSCO's water and wastewater
17 divisions is flawed. Staff eliminates 97 percent of the central office cost allocation
18 pool before allocating the remaining 3 percent to LPSCO's water and wastewater
19 divisions. As I testified in the pending BMSC rate case, APIF incurs the central
20 office cost for the benefit of its subsidiary businesses. APIF provides management,
21 financial, audit, tax, legal resources, and corporate governance for all of its
22 subsidiary businesses that would otherwise be incurred if they were a stand-alone
23 business. In other words, but for the subsidiary business APIF would not have
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25 ⁹⁷ See Company response to Staff data request JMM 5.5.

26 ⁹⁸ Michlik WW Dt. at 16.

1 central office costs. But the real benefit under the APIF model is there enormous
2 economies of scale that are achieved.

3 **Q. PLEASE COMMENT ON RUCO'S ADJUSTMENT TO ALLOCATED**
4 **CENTRAL OFFICE COSTS?**

5 A. RUCO recommends disallowing all the central office costs for the wastewater
6 division.⁹⁹ RUCO bases its recommended disallowance of central office cost
7 allocation on several factors. First, RUCO could not reconcile the Company
8 indicated central office cost allocation of \$267,462 with the amounts based on the
9 Company's billings for central office costs of \$191,850.¹⁰⁰ Second, RUCO asserts
10 that during the test year, the Company increased its central office cost billings
11 without providing any explanation.¹⁰¹ Third, RUCO again asserts the central office
12 cost invoices do not contain sufficient detail.¹⁰² Finally, RUCO claims that the
13 Company has not sufficiently explained the central office costs to determine
14 whether the services provided are necessary for the provision of service of
15 LPSCO.¹⁰³

16 **Q. PLEASE RESPOND TO RUCO'S CRITICISMS OF THE CENTRAL**
17 **OFFICE COST ALLOCATION?**

18 A. With respect to the first criticism, RUCO is correct that the actual wastewater
19 division central office costs for the test year were \$191,850. The \$267,462 was
20 based on a 2008 calendar year budget. As noted above, RUCO's inability to
21 reconcile those numbers stems from RUCO's failure to understand that those

22
23 ⁹⁹ M Rowell Dt. at 13.

24 ¹⁰⁰ *Id.*

25 ¹⁰¹ *Id.*

26 ¹⁰² *Id.*

¹⁰³ *Id.*

1 numbers apply to different time periods. As also noted, the \$267,462 amount is for
2 central office costs for the 2008 calendar year (January-December 2008), whereas
3 the \$191,850 amount is for central office costs incurred during the test year
4 (September 2007-October 2008). Based on the Company's rebuttal adjustment
5 discussed previously, the correct allocation based on actual test year cost is
6 \$343,688.¹⁰⁴ I have responded to the other criticisms earlier in my testimony and
7 will not repeat that testimony here. I would note that, again, I believe that
8 LPSCO's documentation in support of its affiliate cost allocations meets the
9 applicable NARUC guidelines as mentioned above.

10 **Q. PLEASE CONTINUE.**

11 A. Rebuttal adjustment 10 reflects the synchronization of interest expense with the
12 Company's proposed rate base.

13 Rebuttal adjustment 11 reflects income taxes at Company's proposed rates.

14 **1. Remaining Revenue and Expense Issues.**

15 A. RUCO recommends that \$102,116 of allocated costs for the wastewater division
16 from Liberty Water (formerly Algonquin Water Services or AWS) be
17 disallowed.¹⁰⁵ One of the reasons RUCO uses to justify the disallowance is that the
18 Costs cannot be reconciled to the test year.¹⁰⁶ However, these Liberty Water
19 allocated costs do reconcile. Let me explain. In Table 3 on page 10 of Mr.
20 Rowell's direct testimony, Mr. Rowell shows the total of the allocated contract
21 services for the Wastewater Division from Liberty Water as \$1,260,574. In
22 addition, Mr. Rowell shows the Recon fees to 4-factor for the wastewater division
23 as \$785,716 which is also found in Table 3 but located on page 11 of his testimony.

24 ¹⁰⁴ See Rebuttal Schedule C-2, page 10, Adjustment 9.

25 ¹⁰⁵ M Rowell Dt. at 12.

26 ¹⁰⁶ *Id.*

1 The two amounts total \$1,746,290 which is the amount recorded in the test year for
2 the Wastewater Division. Below is the detail of those recorded costs:¹⁰⁷

<u>Account and Description</u>	<u>Amount</u>
8600-2-0200-69-5200-0110 Contractual Services-AWS	539,992.43
8600-2-0200-69-5200-0120 Admin Allocation – AWS	485,716.12
8600-2-0200-50-5200-0110 Contractual Services-AWS	<u>720,581.27</u>
Total	1,746,289.82

6
7 In the Company direct filing, these costs were trued-up to the new cost allocation
8 methodology cost of \$2,092,975 by an increase to the test year expenses of
9 \$346,685.¹⁰⁸ The \$2,092,975 is the same amount contained the documentation
10 provided to RUCO.¹⁰⁹ I also would restate what I noted above. RUCO claims that
11 LPSCO did not explain exactly what costs were included in the “Recon fees to 4
12 factor” and, therefore, Mr. Rowell disallowed \$102,116 in costs. Again, however,
13 RUCO and Mr. Rowell simply did not understand that the “Recon fees to 4 factor”
14 was a reconciliation and true-up of the 4 factor formula to the entire test year. I
15 also would restate that, in his deposition, Mr. Rowell agreed that it is appropriate
16 for LPSCO to true up and reconcile the 4 factor data to the actual costs incurred.

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24 ¹⁰⁷ See Company work paper file “Item #23 LPSCO Income Statement Comp by Segment 2005 2006 2007
2008.xls” provided in response to JMM 2-10.

25 ¹⁰⁸ See Direct Schedule C-2, page 12, Adjustment Number 11.

26 ¹⁰⁹ See also Company response to RUCO data request MJR 3.3(b).

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TJB-RB1
(Rate Base – Phase I)

1 of 2

Job Invoice

August 20, 2001

Yahweh Contracting LLC
7019 W. Georgia Ave.
Glendale, Az

To: LPSCO Water Co.

Address: 111 W. Wigwam Blvd.

Qty	Material	Unit	Amount
-----	----------	------	--------

205 Honeysuckle

\$15,000.00

New 2" water line to wigwam outlet - materials 5,000

5 new water services 1"

Backhoe, labor, sawcut, Materials, Truck, Tools - \$10,000 - Ten working days

Insurance, Sales Tax

profit 4,000 = \$19,000

\$15,000

Remaining balance \$4000.00

PAYMENT

DATE 9-24-01

AMOUNT \$15,000

New Copper Services
for wigwam Business
Center Total of 6

100-000-10744 19000

ACC. #

Work ordered by: Conde Sluga

Customer Approval: _____

Authorized Signature: _____

2 of 2

Job Invoice

August 27, 2001

Yahweh Contracting LLC
7019 W. Georgia Ave.
Glendale, Az

To: LPSCO Water Co.

Address: 111 W. Wigwam Blvd.

Qty	Material	Unit	Amount
	205 HONEYSUCKLE		\$4000.00

New 2" water line to wigwam outlet
5 new water services 1"
Backhoe, labor, sawcut, Materials, Truck, Tools


Insurance, Sales Tax

Remaining balance of job
\$4000.00

Work ordered by: Conde Sluga

Customer Approval: _____

Authorized Signature: 

PAYMENT	
APPR BY 	DATE: 9-24-01
AMOUNT APPR. \$	4,000
COMMENTS	New Copper Services for Wigwam Business
DISTRIBUTION	Order Total of 6
ACC # _____	\$ _____
ACC # _____	\$ _____
ACC # _____	\$ _____



HUGHES SUPPLY INC



3622 S. 30th STREET • PHOENIX, AZ 85040 • TEL (602) 268-8781 • FAX (602) 268-8973
 18012 N. 32nd STREET • PHOENIX, AZ 85032 • TEL (602) 867-2040 • FAX (602) 867-4157
 332 E. BASELINE RD. • MESA, AZ 85210 • TEL (480) 926-0979 • FAX (480) 926-3332
 1011 S. ALVERNON WAY • TUCSON, AZ 85714 • TEL (520) 745-0561 • FAX (520) 745-4566

HUGHES SUPPLY, INC.

P.O. Box 66970

Phoenix, Arizona 85082-6970

TURF IRRIGATION &
WATER WORKS SUPPLY
A Hughes Supply, Inc. Company

PAYMENT

APPR BY AK DATE 11/3/01

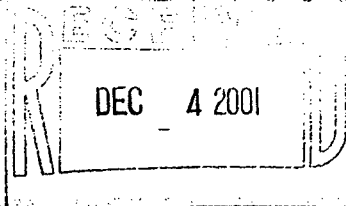
AMOUNT APPR. \$ 14943.84

COMMENTS _____

DISTRIBUTION

1 ACC# LEFLO PK \$SRVC CO
 LETCHFLO RESERVE BOOSTER
 1 ACC# WIGWAG BLVD STE B
 LETCHFLO PK AZ 85340
 ACC# _____

INVOICE



PAGE 1 OF 1
 DATE 11/26/01
 INVOICE NO. 863500
 TAKEN BY JEFF

COUNTER BILLING

SHIP TO: DYSART & INDIAN SCHOOL
 LPSCO RESERVOIR BOOSTER
 CALL 1 DAY ADVANCE HAVE
 NO FORKLIFT

9:35AM

NET 10TH

SHIP VIA/ROUTING: OUR TRUCK-GREG 623-935-9367

ORDER NO.	ORDER DATE	CUSTOMER NO.	CUSTOMER P.O. NO.	SLSMN	LOC
324672	10/23/01	5017001	0101-45	156	10

PART NUMBER	QTY	SHF	BKO	DESCRIPTION	H/M PRICE U/M	AMOUNT
04CVGG-4800	3			MUELLER ULFM 12 FLG SWING CHECK	1708.00 EA	5124.00
03BVGGH-4800	3			BUTTERFLY VALVE 12 FLG EPOXY	695.00 EA	2085.00
				INTERIOR, TNEC (PRIMER)		
				EXTERIOR COATING, WITH		
				HANDWHEEL.		
08TEGG-4816	3			TEE 12x4 FLG	493.00 EA	1479.00
0890GG-4800	6			90 12" FLG	319.00 EA	1914.00
03PLVGG-1500	3			4"FLG PLUG VLV W/WRENCH NUT	223.00 EA	669.00
				EPOXY LINING 2 COATS INTERIOR &		
				PRIME 2 COATS EXTERIOR		
				MILLIKEN.		
09UD-4800	6			UNIFLANGE >DIP 12 W/GSKT	78.00 EA	468.00
31GGFB-1600	6			FLANGE GASKET 4 FF 1/8" RUBBER	2.64 EA	15.84
36JZ324148	3			ECN REDUCER FLG 12X10 DI SIGMA	385.00 EA	1155.00
36JZ324148A	3			VAL-MATIC AIR/VACUUM VM-104	585.00 EA	1755.00
36JZ324148B	3			ROMAC 202S 12X2 NPT TAPPING SGL	93.00 EA	279.00

INVOICE AMOUNT

14943.84

14943.84
 3

100-000-1160-00
 14943.84

Mech Equipment
 For Town well Rehab

SIGNATURE _____

FILE COPY

PRINT NAME: _____

WEIGHT 5,084 LBS.

LEASE INITIAL ONE OF THE FOLLOWING BOXES:

Customer Checked Order ☐

Customer Refused to
Check Order ☐

TERMS & CONDITIONS OF SALE: By acceptance of goods, buyer agrees to the following terms and conditions of sale. Payment terms are as noted above. Past balances will be subject to service charges of 1 1/2% per month (18% per annum). Accounts with balances owed in excess of 60 days or which have exceeded established credit limit may be placed on credit hold. If payment is not made when due, buyer agrees to pay all actual costs of collection, including all attorney collection fees incurred by Turf Irrigation & Water Works. Returned merchandise will not be accepted without prior approval of Turf Irrigation & Water Works. Supply. A minimum 15% restocking charge will be made on accepted returned items. SPECIAL ORDER merchandise is not returnable and not cancelable. Turf Irrigation & Water Works personnel may, as a convenience to buyer, assist in loading material onto buyer's vehicle or equipment; however, buyer agrees

11/06/02

15:07

PINN-WEST TRANS OPS → 6239351020

NO.478

002

SEE WHAT
COURTESY
CAN DO

1233 East Camelback Road
P.O. Box 7700
Phoenix, Arizona 85011-7700
Telephone (602) 278-3232
www.houseofcourtesy.com

PAY FROM THIS
INVOICE

SOLD TO

LITCHFIELD PARK SERVICE COMPANY
111 W WIGWAM BLVD SUITE B
LITCHFIELD, ARIZ 85340

DATE 08/13/02

YOUR ORDER NO. 08328

STOCK NO. 025425

INVOICE NO. 711118

CONTROL NO. 711118

TERMS NET 30

INVOICE

VIN: 1GCCS14W228263042

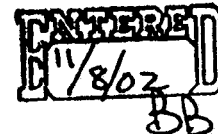
2002 CHEVROLET S10 PICKUP

INVOICE:	16,164.53
SALES TAX:	5.00
TIRE TAX:	
DOC FEE:	305.93
LICENSE FEE:	1,250.00
REBATE/CASH OWN:	

15,225.46

08328
Litchfield Park
J. Gluck

PAYMENT AUTHORIZATION	
APPROVAL	<i>[Signature]</i>
DATE	11-8-02
AMOUNT TO PAY	15,225.16
CODING	Trucks
TOTAL DUE	15,225.46
100-000-1022-00	15,225.46
THANK YOU	



THE HOUSE OF COURTESY SINCE 1955

TJB-RB2
(Rate Base – Phase I)

System: 11/10/09 10:59:21 AM
User Date: 11/10/09

CARBSTROL Corporation
DOCUMENT INQUIRY REPORT
Sales Order Processing

Page: 1
User ID: Kellie

Ranges:	From:	To:
Document Number	28331	28331
Customer ID	First	Last
Document Date	First	Last
Batch ID	First	Last
Document Type	First	Last
Master Number	First	Last

Sorted By: Document Number/Document Type Include: History

* Voided

Customer ID	Document Number	Type	Type ID	Date	Batch ID	Subtotal	Customer PO Number
Customer Name		Master No.	Trade Discount	Freight	Miscellaneous	Tax	Total
92647-1	28331	ORD	STDORD	1/10/02	INV03/11/02	\$36,125.00	31-RMT1181
Pacific Environmental Resource		3,658		\$0.00	\$2,125.00	\$0.00	\$38,250.00

Total Documents: 1

TJB-RB3
(Rate Base – Phase I)

LITCHFIELD PARK SERVICE COMPANY
SEWER DIVISION
DOCKET NO. WS-0428A-01-0487 & W-01427A-01-0487

SURREBUTTAL
SCHEDULE RDN-3

ORIGINAL COST RATE BASE

LINE NO	DESCRIPTION	ORIGINAL COST			
		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] REF	STAFF AS ADJUSTED
1	Gross Utility Plant in Service	\$ 9,110,164	3,300,241	1,2	\$ 12,410,405
2	Less:				
3	Accumulated Depreciation	758,143	622,885	3	1,381,028
4	Net Utility Plant in Service	8,352,021	\$ 2,677,356		\$ 11,029,377
	Less:				
5	Contribution In Aid of Construction	0	2,070,191		2,070,191
6	Less Amortization of CIAC	0	488,918		488,918
7	Net CIAC	0	1,581,273		1,581,273
	Less:				
8	Advances In Aid of Construction	0	0		0
9	Deferred Income Taxes	353,513			353,513
10	Total Deductions	353,513	1,581,273		1,934,786
	Plus:				
11	CWIP	1,230,049	(1,230,049)	4	0
12	Allowance for Working Capital	84,968	(2,187)	5	82,781
13	Total Rate Base	\$ 9,313,525	\$ (136,153)		\$ 9,177,372

**BOURASSA REBUTTAL
WATER SCHEDULES
(Rate Base – Phase I)**

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Increase in Gross Revenue
Requirements As Adjusted

Exhibit
Rebuttal Schedule A-1
Page 1
Witness: Bourassa

Line

No.

1	Fair Value Rate Base	\$ 37,502,569
2		
3	Adjusted Operating Income	(24,837)
4		
5	Current Rate of Return	-0.07%
6		
7	Required Operating Income	\$ 4,125,283
8		
9	Required Rate of Return on Fair Value Rate Base	11.00%
10		
11	Operating Income Deficiency	\$ 4,150,119
12		
13	Gross Revenue Conversion Factor	1.6286
14		
15	Increase in Gross Revenue Revenue Requirement	6,759,028
16		
17	Adjusted Test Year Revenues	\$ 6,878,709
18	Increase in Gross Revenue Revenue Requirement	\$ 6,759,028
19	Proposed Revenue Requirement	\$ 13,637,738
20	% Increase	98.26%
21		

Customer Classification	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
24 5/8 Inch Residential	\$ 7,929	\$ 12,382	\$ 4,453	56.16%
25 3/4 Inch Residential	2,023,567	4,687,168	2,663,601	131.63%
26 1 Inch Residential	1,986,898	4,526,700	2,539,802	127.83%
27 1.5 Inch Residential	54,252	96,290	42,038	77.49%
28 2 Inch Residential	159,078	234,227	75,149	47.24%
29 4 Inch Residential	19,356	32,030	12,675	65.48%
30 Subtotal	\$ 4,251,079	\$ 9,588,796	\$ 5,337,717	125.56%
31				
32 5/8 Inch Commercial	\$ 24,344	\$ 40,954	\$ 16,610	68.23%
33 3/4 Inch Commercial	12,320	30,065	17,745	144.04%
34 1 Inch Commercial	31,023	71,401	40,379	130.16%
35 1.5 Inch Commercial	64,158	113,680	49,522	77.19%
36 2 Inch Commercial	394,253	586,940	192,688	48.87%
37 4 Inch Commercial	64,990	108,554	43,564	67.03%
38 8 Inch Commercial	17,579	31,839	14,260	81.12%
39 10 Inch Commercial	-	-	-	0.00%
40 Subtotal	\$ 608,665	\$ 983,433	\$ 374,768	61.57%
41				0.00%
42 5/8 Inch Irrigation	\$ 36,970	\$ 82,378	\$ 45,407	
43 3/4 Inch Irrigation	151,173	310,186	159,013	105.19%
44 1 Inch Irrigation	148,413	262,651	114,238	76.97%
45 1.5 Inch Irrigation	908,626	1,504,279	595,653	65.56%
46 2 Inch Irrigation	104,340	180,169	75,829	72.67%
47 4 Inch Irrigation	-	-	-	0.00%
48 Subtotal	\$ 1,349,523	\$ 2,339,663	\$ 990,140	73.37%
49				
50 Hydrant	\$ 403,707	\$ 455,597	\$ 51,891	12.85%
51 Subtotal Revenues before Annualization	\$ 6,612,974	\$ 13,367,490	\$ 6,754,516	102.14%
52 Revenue Annualization	-	-	-	0.00%
53 Miscellaneous Revenues	6,878,710	13,637,737	6,759,028	98.26%
54 Reconciling Amount H-1 to C-1	-	-	-	0.00%
55 Total of Water Revenues (a)	\$ 13,491,684	\$ 27,005,227	\$ 6,754,516	50.06%

SUPPORTING SCHEDULES:

- 58 Rebuttal B-1
- 59 Rebuttal C-1
- 60 Rebuttal C-3
- 61 Rebuttal H-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Summary of Rate Base

Exhibit
Rebuttal Schedule B-1
Page 1
Witness: Bourassa

Line No.		Original Cost Rate base	Fair Value Rate Base
1			
2	Gross Utility Plant in Service	\$ 73,705,658	\$ 73,705,658
3	Less: Accumulated Depreciation	9,027,020	9,027,020
4			
5	Net Utility Plant in Service	\$ 64,678,638	\$ 64,678,638
6			
7	<u>Less:</u>		
8	Advances in Aid of		
9	Construction	22,336,975	22,336,975
10	Contributions in Aid of		
11	Construction	3,096,180	3,096,180
12			
13	Accumulated Amortization of CIAC	(860,706)	(860,706)
14			
15	Customer Meter Deposits	2,238,022	2,238,022
16	Deferred Income Taxes & Credits	448,160	448,160
17			
18			
19			
20	<u>Plus:</u>		
21	Unamortized Debt Issuance		
22	Costs	-	-
23	Deferred Reg. Assets	82,561	82,561
24	Working capital	-	-
25			
26			
27			
28			
29	Total Rate Base	\$ 37,502,569	\$ 37,502,569

30

31

32

33 SUPPORTING SCHEDULES:

34 Rebuttal B-2
35 Rebuttal B-3
36 Rebuttal B-5
37
38

RECAP SCHEDULES:

Rebuttal A-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rebuttal Schedule B-2
Page 1
Witness: Bourassa

Line No.		Actual at End of <u>Test Year</u>	Proforma Adjustment <u>Amount</u>	Adjusted at end of <u>Test Year</u>
1	Gross Utility			
2	Plant in Service	\$ 73,731,815	(26,157)	\$ 73,705,658
3				
4	Less:			
5	Accumulated			
6	Depreciation	9,107,141	(80,121)	9,027,020
7				
8				
9	Net Utility Plant			
10	in Service	\$ 64,624,674		\$ 64,678,638
11				
12	Less:			
13	Advances in Aid of			
14	Construction	24,583,673	(2,246,699)	22,336,975
15				
16	Contributions in Aid of			
17	Construction	3,104,068	(7,888)	3,096,180
18				
19	Accumulated Amort of CIAC	(860,706)	-	(860,706)
20				
21	Customer Meter Deposits	68,685	2,169,337	2,238,022
22	Deferred Income Taxes & Credits	21,451	426,709	448,160
23				
24				
25				
26	Plus:			
27	Unamortized Debt Issuance			
28	Costs	134,528	(134,528)	-
29	Deferred Reg. Assets	82,561	-	82,561
30	Working capital	-	-	-
31				
32				
33				
34				
35	Total	<u>\$ 37,924,592</u>		<u>\$ 37,502,569</u>

SUPPORTING SCHEDULES:
Rebuttal B-2, page 2

RECAP SCHEDULES:
Rebuttal B-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rebuttal Schedule B-2
Page 2
Witness: Bourassa

Line No.	Description	Adjusted at end of Test Year	Proforma Adjustments					Remove Security Deposit	Debt Issuance Costs	Rebuttal Adjusted at end of Test Year
			1	2	3	4	5			
1	Gross Utility Plant in Service	\$ 73,731,815	(26,157)							\$ 73,705,658
2										
3										
4	Less:									
5	Accumulated Depreciation	9,107,141	(80,121)							9,027,020
6										
7										
8										
9	Net Utility Plant in Service	\$ 64,624,674	\$ (26,157)	\$ 80,121	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,678,638
10										
11										
12	Less:									
13	Advances in Aid of Construction	24,583,673				(8,677)	(2,238,022)			22,336,975
14										
15										
16	Contributions in Aid of Construction (CIAC)	3,104,068				(7,888)				3,096,180
17										
18	Accumulated Amort of CIAC	(860,706)								(860,706)
19										
20										
21	Customer Meter Deposits	68,685					\$ 2,238,022	(68,685)		2,238,022
22	Deferred Income Taxes & Credits	21,451			426,709					448,160
23										
24										
25	Plus:									
26	Unamortized Finance Charges	134,528							(134,528)	-
27										
28	Deferred Reg. Assets	82,561								82,561
29	Allowance for Working Capital	-								-
30										
31	Total	\$ 37,924,592	\$ (26,157)	\$ 80,121	\$ (426,709)	\$ 16,565	\$ -	\$ 68,685	\$ (134,528)	\$ 37,502,569
32										
33										
34										

SUPPORTING SCHEDULES:
Rebuttal B-2, pages 3-6

RECAP SCHEDULES:
Rebuttal B-2, page 1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1

Line No.	Plant-in-Service	Acct. No.	Description	Adjusted Original Cost	A Post Test Year Plant	B Plant Retirements	C Capitalized Expenses	D Organization Costs	E Remove Office Rent	E Intentionally Left Blank	Rebuttal Adjusted Original Cost
1	Plant-in-Service			100				21,000			21,000
2											
3											
4											
5		301	Organization Cost	-							-
6		302	Franchise Cost	-							-
7		303	Land and Land Rights	1,284,595							1,284,595
8		304	Structures and Improvements	24,698,293		(41,971)			(7,072)		24,649,251
9		305	Collecting and Impounding Res.	-							-
10		306	Lake River and Other Intakes	-							-
11		307	Wells and Springs	2,382,102			11,389				2,393,491
12		308	Infiltration Galleries and Tunnels	-							-
13		309	Supply Mains	-							-
14		310	Power Generation Equipment	202,269							202,269
15		311	Electric Pumping Equipment	948,213		(31,158)					917,055
16		320	Water Treatment Equipment	1,337,824							1,337,824
17		320.1	Water Treatment Plant	1,866,965	18,805						1,885,770
18		320.2	Chemical Solution Feeders	-							-
19		330	Dist. Reservoirs & Standpipe	430,644			8,600				439,244
20		330.1	Storage tanks	-							-
21		330.2	Pressure Tanks	-							-
22		331	Trans. and Dist. Mains	28,929,171							28,929,171
23		333	Services	4,249,744							4,249,744
24		334	Meters	4,138,752							4,138,752
25		335	Hydrants	2,055,781							2,055,781
26		336	Backflow Prevention Devices	38,387							38,387
27		339	Other Plant and Misc. Equip.	265,281		(5,750)					259,531
28		340	Office Furniture and Fixtures	551,757							551,757
29		340.1	Computers and Software	-							-
30		341	Transportation Equipment	177,165							177,165
31		342	Stores Equipment	31,711							31,711
32		343	Tools and Work Equipment	23,350							23,350
33		344	Laboratory Equipment	-							-
34		345	Power Operated Equipment	-							-
35		346	Communications Equipment	119,710							119,710
36		347	Miscellaneous Equipment	-							-
37		348	Other Tangible Plant	-							-
38				-							-
39			TOTALS	\$ 73,731,815	\$ 18,805	\$ (78,879)	\$ 19,989	\$ 21,000	\$ (7,072)	\$ -	\$ 73,705,658
40											
41			Adjusted Plant-in-Service per Direct								
42											
43			Increase (decrease) in Plant-in-Service								
44											
45			Adjustment to Plant-in-Service								
46											
47			SUPPORTING SCHEDULES								
48			Rebuttal B-2, pages 3.1-3.4								
49			Rebuttal B-2, pages 3.5-3.16								

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- B

Exhibit
Rebuttal Schedule B-2
Page 3.1
Witness: Bourassa

Line

No.

1	<u>Post Test Year Plant</u>	
2		
3	Post Test Year Plant per Rebuttal	\$ 1,885,770
4		
5	Post Test Year Plant per Direct	<u>\$ 1,866,965</u>
6		
7	Increase (Decrease) in Plant-in-Service	<u>\$ 18,805</u>
8		
9		
10	Account 320.1 - Water Treatment Equipment	<u>\$ 18,805</u>
11		
12		
13	See Staff Adjustment 2 Schedule JMM-W5	
14		
15		
16		

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Original Cost Rate Base Proforma Adjustments

Adjustment Number 1- B

Exhibit

Rebuttal Schedule B-2

Page 3.2

Witness: Bourassa

Line

No.

1 Plant Retirements

2

3 304 - Structures and Improvements

\$ (41,971)

4 311 - Electric Pumping Equipment

(31,158)

5 339 - Other Plant and Miscellaneous Equipment

(5,750)

6

7 Increase (Decrease) in Plant-in-Service

\$ (78,879)

8

9

10 For related AIAC and CIAC see Rebuttal Schedule B-2, page 6

11

12

13

14

15 See Staff Adjustment 1 Schedule JMM-W6 (from Exhibit MSJ Table H-1)

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1 - C

Exhibit
Rebuttal Schedule B-2
Page 3.3
Witness: Bourassa

Line

No.

1	<u>Capitalized Expenses</u>	
2		
3	307 - Wells and Springs - Hydro Controls and Pump Systems (clocks for wells)	\$ 1,114
4	307 - Wells and Springs - Southwest Grd Wtr Consult. (well spacing evaluation)	1,380
5	307 - Wells and Springs - Southwest Grd Wtr Consult. (well impact analysis)	4,823
6	307 - Wells and Springs - Southwest Grd Wtr Consult. (well rehabilitation)	4,072
7	Total For 307 - Wells and Springs	<u>\$ 11,389</u>
8		
9	331 - Distribution Mains - Narasimhan Consulting Services (Dist. Sys. Eval.)	<u>8,600</u>
10		
11	Total Capitalized Expenses	<u><u>\$ 19,989</u></u>
12		
13		
14	See Testimony	

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Original Cost Rate Base Proforma Adjustments

Adjustment Number 1 - D

Exhibit

Rebuttal Schedule B-2

Page 3.4

Witness: Bourassa

Line

No.

1

Remove Office Rent

2

3

307 - Wells and Springs - Suncor Development Company (2002)

\$ (7,072)

4

5

6

7

8

9

10

11

12

13

14

See Testimony

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.5

Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Plant At 12/31/2000	2000 Accum. Depr.	2001 Plant Additions	2001 Plant Adjustments	2001 Adjusted Plant Additions	2001 Plant Retirements	2001 Salvage A/D Only	2001 Plant Balance	2001 Deprec.
301		Organization Cost	0.00%	0.00%	21,100	-	-	-	-	-	-	21,100	-
302		Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-	-
303		Land and Land Rights	0.00%	0.00%	671,103	-	-	-	-	-	-	671,103	-
304		Structures and Improvements	2.62%	3.33%	114,008	48,698	3,441	-	3,441	-	-	117,449	3,032
305		Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-	-
306		Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-	-
307		Wells and Springs	2.62%	3.33%	613,250	173,809	930,425	-	930,425	-	-	1,543,674	28,256
308		Infiltration Galleries and Tunnels	2.62%	2.62%	-	-	-	-	-	-	-	-	-
309		Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-	-
310		Power Generation Equipment	2.62%	5.00%	89,151	-	71,728	-	71,728	-	-	140,878	2,751
311		Electric Pumping Equipment	2.62%	12.50%	420,594	94,255	35,008	-	35,008	-	-	455,602	11,478
320		Water Treatment Equipment	2.62%	3.33%	82,310	(15,404)	70,887	-	70,887	-	-	153,197	3,085
320.1		Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-	-	-
320.2		Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-	-
330		Distribution Reservoirs & Standpipe	2.62%	2.62%	-	-	-	-	-	-	-	-	-
330.1		Storage tanks	2.62%	2.22%	278,676	111,824	2,531	-	2,531	-	-	281,207	7,334
330.2		Pressure Tanks	2.62%	2.22%	-	-	-	-	-	-	-	-	-
331		Transmission and Distribution Mains	2.62%	5.00%	-	-	-	-	-	-	-	-	-
333		Services	2.62%	2.00%	4,855,257	1,068,157	1,337,228	-	1,337,228	-	-	6,192,485	144,725
334		Meters	2.62%	3.33%	1,907,362	241,423	182,981	-	182,981	-	-	2,090,352	52,370
335		Hydrants	2.62%	8.33%	1,261,241	301,075	174,224	-	174,224	-	-	1,435,466	35,327
336		Backflow Prevention Devices	2.62%	2.00%	322,184	(23,090)	67,203	-	67,203	-	-	389,386	9,322
339		Other Plant and Miscellaneous Equipment	2.62%	6.67%	8,426	299	-	-	-	-	-	8,426	221
340		Office Furniture and Fixtures	2.62%	6.67%	100,842	8,854	7,827	-	7,827	-	-	108,669	2,745
340.1		Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-	-	-
341		Transportation Equipment	2.62%	20.00%	-	-	600	-	600	-	-	1,501	31
342		Stores Equipment	2.62%	4.00%	901	35	-	-	-	-	-	-	-
343		Tools and Work Equipment	2.62%	5.00%	6,757	1,669	2,586	-	2,586	-	-	9,343	211
344		Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
345		Power Operated Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
346		Communications Equipment	2.62%	5.00%	-	4,665	-	-	-	-	-	-	(4,665)
347		Miscellaneous Equipment	2.62%	10.00%	-	-	12,285	-	12,285	-	-	12,285	161
348		Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-	-	-
Plant Held for Future Use													
TOTAL WATER PLANT													
					10,733,161	2,016,268	2,898,961	-	2,898,961	-	-	13,632,123	296,384

(See page 3.15) (See page 3.16)

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.6

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2002 Plant Additions	2002 Plant Adjustments	2002 Adjusted Plant Additions	2002 Plant Retirements	2002 Salvage/Adj. A/D Only	2002 Plant Balance	2002 Deprec.
301	Organization Cost	0.00%	0.00%	112	-	112	-	-	21,212	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.62%	3.33%	28,361	(7,072)	21,289	-	-	138,738	3,432
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	292,355	-	292,355	-	-	1,836,030	45,274
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-
311	Electric Pumping Equipment	2.62%	12.50%	84,962	-	84,962	-	-	140,878	3,970
320	Water Treatment Equipment	2.62%	3.33%	20,920	-	20,920	-	-	540,564	17,151
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	174,117	4,385
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	3,598	-	3,598	-	-	284,805	7,320
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	4,182,326	-	4,182,326	-	-	10,374,811	212,752
333	Services	2.62%	3.33%	405,108	-	405,108	-	-	2,485,460	61,431
334	Meters	2.62%	8.33%	532,234	-	532,234	-	-	1,967,699	52,678
335	Hydrants	2.62%	2.00%	344,649	-	344,649	-	-	734,036	14,427
336	Backflow Prevention Devices	2.62%	6.67%	2,607	-	2,607	-	-	11,034	288
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	-	-	-
340	Office Furniture and Fixtures	2.62%	6.67%	22,237	-	22,237	-	-	130,906	3,543
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	44,164	-	44,164	-	-	45,865	959
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	952	-	952	-	-	10,295	277
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	1,476	-	1,476	-	-	13,761	421
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-
Plant Held for Future Use										
TOTAL WATER PLANT										
				5,966,062	(7,072)	5,958,990	-	-	19,591,113	428,307

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.7

Account	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2003 Plant Additions	2003 Plant Adjustments ¹	2003 Plant Adjustments	2003 Plant Adjustments	2003 Plant Retirements	2003 Salvage A/D Only	2003 Plant Balance	2003 Deprec.
301	Organization Cost	0.00%	0.00%	(112)	-	-	-	(112)	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.62%	3.33%	66,270	-	-	-	66,270	-	205,007	5,723
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	116,073	-	-	-	116,073	-	1,952,103	63,072
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-
311	Electric Pumping Equipment	2.62%	12.50%	11,570	-	-	-	11,570	-	140,878	7,044
320	Water Treatment Equipment	2.62%	3.33%	1,327	-	-	-	1,327	-	552,136	68,294
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	175,443	5,820
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	2,587	-	-	-	2,587	-	287,392	6,351
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	16,417	-	629,134	-	645,552	-	11,020,363	213,952
333	Services	2.62%	3.33%	9,323	-	-	-	9,323	-	2,498,683	83,152
334	Meis	2.62%	8.33%	502,538	-	61,481	-	564,019	(6,100)	2,531,718	187,401
335	Hydrants	2.62%	2.00%	6,971	-	586,662	-	593,633	-	1,327,668	20,617
336	Backflow Prevention Devices	2.62%	6.67%	2,865	-	-	-	2,865	-	13,898	831
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	-	-	-	-
340	Office Furniture and Fixtures	2.62%	6.67%	18,299	-	-	-	18,299	-	149,205	9,342
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	-	-	-	-	-	-	45,665	9,133
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	6,398	-	-	-	6,398	-	16,693	675
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	13,763	-	-	-	13,763	-	27,524	2,064
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

774,289	-	1,277,279	-	2,051,568	(6,100)	-	21,636,581	683,472
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¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.8

Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2004 Plant Additions	2004 Plant Adjustments ¹	2004 Adjusted Plant Additions	2004 Plant Retirements	2004 Salvage A/D Only	2004 Plant Balance	2004 Deprec.
301		Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302		Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303		Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304		Structures and Improvements	2.62%	3.33%	334,449	(602)	333,848	-	-	538,655	12,385
305		Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306		Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307		Wells and Springs	2.62%	3.33%	4,160	-	4,160	-	-	1,956,263	65,074
308		Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309		Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310		Power Generation Equipment	2.62%	5.00%	35,614	-	35,614	-	-	176,493	7,934
311		Electric Pumping Equipment	2.62%	12.50%	71,154	(199)	70,955	-	-	623,091	73,452
320		Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	175,443	5,842
320.1		Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-
320.2		Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330		Distribution Reservoirs & Standpipe	2.62%	2.22%	117,773	-	117,773	-	-	405,165	7,687
330.1		Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2		Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331		Transmission and Distribution Mains	2.62%	2.00%	8,813,416	-	8,813,416	-	-	19,833,779	308,541
333		Services	2.62%	3.33%	160,033	(4,734)	155,299	-	-	2,653,962	85,792
334		Meilers	2.62%	8.33%	304,200	(280)	303,920	-	-	2,835,638	223,550
335		Hydrants	2.62%	2.00%	389	(511)	(122)	-	-	1,327,547	26,552
336		Backflow Prevention Devices	2.62%	6.67%	-	-	-	-	-	13,888	827
339		Other Plant and Miscellaneous Equipment	2.62%	6.67%	8,226	-	8,226	-	-	8,226	274
340		Office Furniture and Fixtures	2.62%	6.67%	110,448	-	110,448	-	-	259,653	13,635
340.1		Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341		Transportation Equipment	2.62%	20.00%	28,224	-	28,224	-	-	73,889	11,955
342		Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343		Tools and Work Equipment	2.62%	5.00%	647	-	647	-	-	17,340	851
344		Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345		Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346		Communications Equipment	2.62%	10.00%	6,715	-	6,715	-	-	34,239	3,088
347		Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348		Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

9,995,449	(6,326)	9,989,123	-	31,625,704	847,542
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¹ Affiliate Profit

Mitchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.9

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2005 Plant Additions	2005 Plant Adjustments ¹	2005 Adjusted Plant	2005 Plant Retirements	2005 Salvage A/D Only	2005 Plant Balance	2005 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.82%	3.33%	26,680	(28,165)	(1,484)	-	-	537,371	17,919
305	Collecting and Impounding Res.	2.82%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.82%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.82%	3.33%	16,313	(8,385)	7,927	-	-	1,964,190	65,276
308	Infiltration Galleries and Tunnels	2.82%	2.82%	-	-	-	-	-	-	-
309	Supply Mains	2.82%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.82%	5.00%	-	-	-	-	-	176,493	8,825
311	Electric Pumping Equipment	2.82%	12.50%	153,001	(8,399)	144,602	-	-	767,693	86,924
320	Water Treatment Equipment	2.82%	3.33%	13,084	(3,517)	9,567	-	-	185,010	6,002
320.1	Water Treatment Equipment	2.82%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.82%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.82%	2.22%	-	-	-	-	-	405,165	8,995
330.1	Storage tanks	2.82%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.82%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.82%	2.00%	5,295,656	-	5,295,656	-	-	25,129,434	448,632
333	Services	2.82%	3.33%	50,131	(6,563)	43,568	-	-	2,697,550	89,103
334	Meters	2.82%	8.33%	544,240	(477)	543,763	-	-	3,379,401	258,856
335	Hydrants	2.82%	2.00%	14,198	(163)	14,036	-	-	1,341,582	26,691
336	Backflow Prevention Devices	2.82%	6.67%	-	-	-	-	-	13,888	927
339	Other Plant and Miscellaneous Equipment	2.82%	6.67%	147,612	-	147,612	-	-	155,839	5,472
340	Office Furniture and Fixtures	2.82%	6.67%	2,918	-	2,918	-	-	262,571	17,416
340.1	Computers and Software	2.82%	20.00%	(12,837)	-	(12,837)	-	-	61,052	13,494
341	Transportation Equipment	2.82%	4.00%	-	-	-	-	-	-	-
342	Stores Equipment	2.82%	5.00%	-	-	-	-	-	17,811	879
343	Tools and Work Equipment	2.82%	10.00%	472	-	472	-	-	-	-
344	Laboratory Equipment	2.82%	5.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.82%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.82%	10.00%	2,460	(1,394)	1,066	-	-	35,305	3,477
347	Miscellaneous Equipment	2.82%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.82%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-
	Plant Held for Future Use			-	-	-	-	-	-	-
	TOTAL WATER PLANT			6,253,927	(57,061)	6,196,865	-	-	37,822,569	1,059,887

¹ Affiliate Profit

Kitchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.10

Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2006 Plant Additions	2006 Plant Adjustments ¹	2006 Adjusted Additions	2006 Plant Retirements	2006 Salvage A/D Only	2006 Plant Balance	2006 Deprec.
301		Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302		Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303		Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304		Structures and Improvements	2.62%	3.33%	71,062	(22,752)	48,310	(1,350)	-	584,331	18,676
305		Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306		Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307		Wells and Springs	2.62%	3.33%	52,928	-	52,928	-	-	2,017,118	66,289
308		Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309		Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310		Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-
311		Electric Pumping Equipment	2.62%	12.50%	2,400	-	2,400	-	-	176,493	8,825
320		Water Treatment Equipment	2.62%	3.33%	-	(9,690)	(9,690)	-	-	770,093	96,112
320.1		Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	175,320	5,999
320.2		Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330		Distribution Reservoirs & Standpipe	2.62%	2.22%	-	(3,381)	(3,381)	-	-	401,784	8,957
330.1		Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2		Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331		Transmission and Distribution Mains	2.62%	2.00%	371,174	-	371,174	-	-	25,500,608	506,300
333		Services	2.62%	3.33%	141,273	(400)	140,872	-	-	2,838,422	92,174
334		Meters	2.62%	8.33%	394,851	(204)	394,647	-	-	3,774,048	287,941
335		Hydants	2.62%	2.00%	50,673	-	50,673	-	-	1,392,255	27,338
336		Backflow Prevention Devices	2.62%	6.67%	-	-	-	-	-	13,898	927
339		Other Plant and Miscellaneous Equipment	2.62%	6.67%	9,059	-	9,059	-	-	164,897	10,697
340		Office Furniture and Fixtures	2.62%	6.67%	112,402	-	112,402	-	-	374,973	21,262
340.1		Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341		Transportation Equipment	2.62%	2.00%	2,429	-	2,429	-	-	63,481	12,453
342		Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343		Tools and Work Equipment	2.62%	5.00%	-	-	-	-	-	17,811	891
344		Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345		Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346		Communications Equipment	2.62%	10.00%	-	(1,863)	(1,863)	-	-	33,422	3,436
347		Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348		Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-
Plant Held for Future Use					1,208,249	(38,310)	1,169,939	(1,350)	-	38,991,158	1,178,278
TOTAL WATER PLANT											

¹ Affiliate Profit

Kitchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.11

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2007 Plant Additions	2007 Plant Adjustments ¹	2007 Adjusted Plant Additions	2007 Plant Retirements	2007 Salvage A/D Only	2007 Plant Balance	2007 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	6,156	-	6,156	-	-	677,259	-
304	Structures and Improvements	2.62%	3.33%	211,023	(99,915)	111,107	-	-	695,438	21,308
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	85,816	(166)	85,650	-	-	2,102,768	66,596
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	25,777	-	25,777	-	-	202,269	9,469
311	Electric Pumping Equipment	2.62%	12.50%	43,188	-	43,188	-	-	813,281	98,961
320	Water Treatment Equipment	2.62%	3.33%	20,801	(2,049)	18,751	-	-	194,071	6,150
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	2,340	(969)	1,371	-	-	403,154	8,935
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	1,282,512	-	1,282,512	-	-	26,783,120	522,837
333	Services	2.62%	3.33%	628,772	-	628,772	-	-	3,467,194	104,989
334	Meters	2.62%	8.33%	181,719	-	181,719	-	-	3,955,788	321,947
335	Hydrants	2.62%	2.00%	477,160	-	477,160	-	-	1,869,416	32,617
336	Backflow Prevention Devices	2.62%	6.67%	15,272	-	15,272	-	-	29,171	1,436
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	17,925	-	17,925	-	-	182,822	11,596
340	Office Furniture and Fixtures	2.62%	6.67%	-	-	-	-	-	374,973	25,011
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	24,302	-	24,302	-	-	87,783	15,126
342	Stores Equipment	2.62%	4.00%	31,711	-	31,711	-	-	31,711	634
343	Tools and Work Equipment	2.62%	5.00%	-	-	-	-	-	17,811	891
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	-	(28)	(28)	-	-	33,394	3,341
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

3,054,474	(103,128)	2,951,346	-	41,942,503	1,253,844
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¹ Affiliate Profit

Kitchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.12

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Jan. to Sep. 2008 Plant Additions	Jan. to Sep. 2008 Plant Adjustments ¹	Jan. to Sep. 2008 Capitalized Expenses	Jan. to Sep. 2008 Adjusted Plant Additions	Jan. to Sep. 2008 Plant Retirements	Jan. to Sep. 2008 Salvage (A/D Only)	Staff Plant Retirements	Jan. to Sep. 2008 Plant Balance	Jan. to Sep. 2008 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	607,337	-	-	607,337	-	-	-	1,284,595	-
304	Structures and Improvements	2.62%	3.33%	24,060,112	(64,328)	-	23,995,784	(41,971)	-	-	24,649,251	317,016
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	281,259	(1,925)	11,389	290,723	-	-	-	2,393,491	56,147
308	Infiltration Galleries and Tunnels	2.62%	2.62%	-	-	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-	-
311	Electric Pumping Equipment	2.62%	12.50%	134,932	-	-	134,932	-	-	-	202,269	7,585
320	Water Treatment Equipment	2.62%	3.33%	1,150,701	(6,948)	-	1,143,753	(31,158)	-	-	917,055	82,570
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-	1,337,824	19,130
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.62%	27,600	-	-	-	-	-	-	-	-
330.1	Storage tanks	2.62%	2.22%	-	(111)	-	27,489	-	-	-	430,644	6,941
330.2	Pressure Tanks	2.62%	2.22%	-	-	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	5.00%	-	-	-	-	-	-	-	-	-
333	Services	2.62%	2.00%	2,146,051	-	8,600	2,154,651	-	-	-	28,937,771	417,907
334	Meters	2.62%	3.33%	783,007	(457)	-	782,550	-	-	-	4,249,744	96,365
335	Hydrants	2.62%	8.33%	182,984	-	-	182,984	-	-	-	4,138,752	252,853
336	Backflow Prevention Devices	2.62%	2.00%	186,383	(18)	-	186,365	-	-	-	2,055,781	29,439
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	9,217	-	-	9,217	-	-	-	38,387	1,690
340	Office Furniture and Fixtures	2.62%	6.67%	82,459	-	-	82,459	(5,750)	-	-	259,531	11,208
340.1	Computers and Software	2.62%	6.67%	176,784	-	-	176,784	-	-	-	551,757	23,180
341	Transportation Equipment	2.62%	20.00%	-	-	-	-	-	-	-	-	-
342	Stores Equipment	2.62%	4.00%	89,382	-	-	89,382	-	-	-	177,165	19,871
343	Tools and Work Equipment	2.62%	5.00%	5,539	-	-	5,539	-	-	-	31,711	951
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	23,350	772
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
347	Miscellaneous Equipment	2.62%	10.00%	87,102	(787)	-	86,316	-	-	-	119,710	5,741
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

30,010,848	(74,573)	19,989	29,956,264	-	-	71,819,888	1,349,366
						PTY Plant	\$ 1,885,770
						Total B-2 Plant	73,705,658

¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.13

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account					
				2000	2001	2002	2003	2004	2005
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	-
304	Structures and Improvements	2.62%	3.33%	48,698	51,730	55,161	60,885	73,270	91,189
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	173,809	202,065	247,339	310,411	375,486	440,761
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	2,751	6,722	13,766	21,700	30,525
311	Electric Pumping Equipment	2.62%	12.50%	94,255	105,733	122,884	191,178	264,629	351,553
320	Water Treatment Equipment	2.62%	3.33%	(15,404)	(12,319)	(7,934)	(2,114)	3,728	9,730
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	111,824	119,158	126,479	132,830	140,517	149,512
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	1,068,157	1,212,882	1,425,634	1,639,586	1,948,127	2,397,759
333	Services	2.62%	3.33%	241,423	293,793	355,224	432,276	518,068	607,171
334	Meters	2.62%	8.33%	301,075	336,402	389,080	576,481	800,031	1,058,888
335	Hydrants	2.62%	2.00%	(23,090)	(13,768)	659	21,276	47,828	74,519
336	Backflow Prevention Devices	2.62%	6.67%	299	519	807	1,639	2,566	3,493
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	274	5,746
340	Office Furniture and Fixtures	2.62%	6.67%	8,854	11,598	15,141	24,483	38,118	55,534
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	35	67	1,026	10,159	22,115	35,609
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	1,669	1,879	2,156	2,831	3,682	4,560
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	4,665	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	-	161	582	2,646	5,735	9,212
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-
Plant Held for Future Use				-	-	-	-	-	-
TOTAL WATER PLANT				2,016,268	2,312,652	2,740,959	3,418,332	4,265,874	5,325,761

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.14

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation By Account		
				2006	2007	2008
301	Organization Cost	0.00%	0.00%	-	-	-
302	Franchise Cost	0.00%	0.00%	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-
304	Structures and Improvements	2.62%	3.33%	108,516	129,824	404,869
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-
307	Wells and Springs	2.62%	3.33%	507,050	575,546	631,793
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-
310	Power Generation Equipment	2.62%	5.00%	39,349	48,818	56,403
311	Electric Pumping Equipment	2.62%	12.50%	447,665	546,626	598,038
320	Water Treatment Equipment	2.62%	3.33%	15,729	21,879	41,009
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	158,469	167,404	174,345
330.1	Storage tanks	2.62%	2.22%	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	2,904,060	3,426,897	3,844,803
333	Services	2.62%	3.33%	699,345	804,334	900,699
334	Meters	2.62%	8.33%	1,356,829	1,678,776	1,931,628
335	Hydrants	2.62%	2.00%	101,857	134,474	163,913
336	Backflow Prevention Devices	2.62%	6.67%	4,420	5,856	7,546
339	Other Plant and Miscellaneous Equipment	2.62%	2.62%	16,442	28,039	33,497
340	Office Furniture and Fixtures	2.62%	6.67%	76,796	101,807	124,987
340.1	Computers and Software	2.62%	20.00%	-	-	-
341	Transportation Equipment	2.62%	20.00%	48,062	63,189	83,060
342	Stores Equipment	2.62%	4.00%	-	634	1,586
343	Tools and Work Equipment	2.62%	5.00%	5,451	6,342	7,113
344	Laboratory Equipment	2.62%	10.00%	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-
346	Communications Equipment	2.62%	10.00%	12,648	15,989	21,730
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-
	Rounding			-	-	-
Plant Held for Future Use				6,502,689	7,756,533	9,027,020
TOTAL WATER PLANT						

Litchfield Park Service Company - Water Division
Plant Reconciliation to Prior Rate Case

Exhibit
Rebuttal Schedule B-2
Page 3.15

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	CIAC Plant	Staff Rmnd Adj	Intentionally Left Blank	Intentionally Left Blank	Prior Case Adjusted Plant	Staff Rmnd not recorded	Intentionally Left Blank	Initial Balance
1	301	Organization Cost	-	-	21,100	-	-	21,100	-	-	21,100
2	302	Franchise Cost	-	-	-	-	-	-	-	-	-
3	303	Land and Land Rights	671,103	-	-	-	-	671,103	-	-	671,103
4	304	Structures and Improvements	114,008	-	-	-	-	114,008	-	-	114,008
5	305	Collecting and Impounding Res.	-	-	-	-	-	-	-	-	-
6	306	Lake River and Other Intakes	-	-	-	-	-	-	-	-	-
7	307	Wells and Springs	604,794	-	8,456	-	-	613,250	-	-	613,250
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-	-
9	309	Supply Mains	-	-	-	-	-	-	-	-	-
10	310	Power Generation Equipment	69,151	-	-	-	-	69,151	-	-	69,151
11	311	Electric Pumping Equipment	405,375	15,219	-	-	-	420,594	-	-	420,594
12	312	Water Treatment Equipment	82,310	-	-	-	-	82,310	-	-	82,310
13	313	Water Treatment Plants	-	-	-	-	-	-	-	-	-
14	314	Chemical Solution Feeders	-	-	-	-	-	-	-	-	-
15	315	Distribution Reservoirs & Standpipe	278,676	-	-	-	-	278,676	-	-	278,676
16	316	Storage tanks	-	-	-	-	-	-	-	-	-
17	317	Pressure Tanks	-	-	-	-	-	-	-	-	-
18	318	Transmission and Distribution Mains	3,887,812	808,880	158,565	-	-	4,855,257	-	-	4,855,257
19	319	Services	1,755,960	151,402	-	-	-	1,907,362	-	-	1,907,362
20	320	Meters	1,208,923	29,899	22,419	-	-	1,261,241	-	-	1,261,241
21	321	Hydrants	269,249	52,935	-	-	-	322,184	-	-	322,184
22	322	Backflow Prevention Devices	8,426	-	-	-	-	8,426	-	-	8,426
23	323	Other Plant and Miscellaneous Equipment	-	-	-	-	-	-	-	-	-
24	324	Office Furniture and Fixtures	100,842	-	-	-	-	100,842	-	-	100,842
25	325	Computers and Software	-	-	-	-	-	-	-	-	-
26	326	Transportation Equipment	-	-	-	-	-	-	-	-	-
27	327	Stores Equipment	-	901	-	-	-	901	-	-	901
28	328	Tools and Work Equipment	6,757	-	-	-	-	6,757	-	-	6,757
29	329	Laboratory Equipment	-	-	-	-	-	-	-	-	-
30	330	Power Operated Equipment	-	-	-	-	-	-	-	-	-
31	331	Communications Equipment	-	-	-	-	-	-	-	-	-
32	332	Miscellaneous Equipment	-	-	-	-	-	-	-	-	-
33	333	Other Tangible Plant	-	-	-	-	-	-	-	-	-
34	334	Rounding	-	-	-	-	-	-	-	-	-
35	335	TOTAL	2	-	(2)	-	-	10,733,161	-	-	10,733,161
36	336		9,464,288	1,058,335	210,538	-	-	10,733,161	-	-	10,733,161
37	337										
38	338										
39	339										
40	340										
41	341										

Per Staff Dt

Litchfield Park Service Company - Water Division
A/D Reconciliation to Prior Rate Case

Exhibit
Rebuttal Schedule B-2
Page 3.16

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	Computed Prior Case Depr Adj.	Intentionally Left Blank	Intentionally Left Blank	Intentionally Left Blank	Prior Case Adjusted A/D	Left Blank	Initial Balance
5	301	Organization Cost	-	-	-	-	-	-	-	-
6	302	Franchise Cost	-	-	-	-	-	-	-	-
7	303	Land and Land Rights	-	-	-	-	-	-	-	-
8	304	Structures and Improvements	18,839	29,859	-	-	48,698	-	-	48,698
9	305	Collecting and Impounding Res.	-	-	-	-	-	-	-	-
10	306	Lake River and Other Intakes	-	-	-	-	-	-	-	-
11	307	Wells and Springs	99,938	73,871	-	-	173,809	-	-	173,809
12	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-
13	309	Supply Mains	-	-	-	-	-	-	-	-
14	310	Power Generation Equipment	11,427	(11,427)	-	-	-	-	-	-
15	311	Electric Pumping Equipment	66,985	27,270	-	-	94,255	-	-	94,255
16	320	Water Treatment Equipment	13,601	(29,005)	-	-	(15,404)	-	-	(15,404)
17	320.1	Water Treatment Plants	-	-	-	-	-	-	-	-
18	320.2	Chemical Solution Feeders	-	-	-	-	-	-	-	-
19	330	Distribution Reservoirs & Standpipe	46,049	65,774	-	-	111,824	-	-	111,824
20	330.1	Storage tanks	-	-	-	-	-	-	-	-
21	330.2	Pressure Tanks	-	-	-	-	-	-	-	-
22	331	Transmission and Distribution Mains	642,434	425,723	-	-	1,068,157	-	-	1,068,157
23	333	Services	290,160	(48,737)	-	-	241,423	-	-	241,423
24	334	Meters	199,766	101,309	-	-	301,075	-	-	301,075
25	335	Hydrants	44,491	(67,581)	-	-	(23,090)	-	-	(23,090)
26	336	Backflow Prevention Devices	1,392	(1,094)	-	-	299	-	-	299
27	339	Other Plant and Miscellaneous Equipment	-	-	-	-	-	-	-	-
28	340	Office Furniture and Fixtures	16,663	(7,810)	-	-	8,854	-	-	8,854
29	340.1	Computers and Software	-	-	-	-	-	-	-	-
30	341	Transportation Equipment	149	(113)	-	-	35	-	-	35
31	342	Stores Equipment	-	-	-	-	-	-	-	-
32	343	Tools and Work Equipment	1,116	552	-	-	1,669	-	-	1,669
33	344	Laboratory Equipment	-	-	-	-	-	-	-	-
34	345	Power Operated Equipment	-	4,665	-	-	4,665	-	-	4,665
35	346	Communications Equipment	-	-	-	-	-	-	-	-
36	347	Miscellaneous Equipment	-	-	-	-	-	-	-	-
37	348	Other Tangible Plant	-	-	-	-	-	-	-	-
38		Capacity Reserve	-	-	-	-	-	-	-	-
39										
40										
41										
		TOTAL	1,453,012	563,256	-	-	2,016,268	-	-	2,016,268

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2

Exhibit
Rebuttal Schedule B-2
Page 4
Witness: Bourassa

Line No.	Accumulated Depreciation	A	B	C	D	E	Rebuttal Adjusted Accum. Depr.
		Adjusted Accum. Depr.	Depreciation On Capitalized Expense Plant	A/D Removed Office Rent	Difference to Computed Balance per B-2	Intentionally Left Blank	
1	Acct. No.						
2	301	12,145	-	-	-	-	-
3	302	448,272	-	-	(12,145)	-	-
4	303	-	-	-	17	-	-
5	304	-	-	(1,449)	-	-	404,869
6	305	-	-	-	-	-	-
7	306	-	-	-	-	-	-
8	307	631,587	-	-	64	-	631,793
9	308	-	-	-	-	-	-
10	309	-	-	-	-	-	-
11	310	56,403	-	-	-	-	56,403
12	311	628,717	-	-	479	-	598,038
13	312	40,658	-	-	351	-	41,009
14	313	-	-	-	-	-	-
15	314	174,345	-	-	-	-	174,345
16	315	-	-	-	-	-	-
17	316	-	-	-	-	-	-
18	317	-	-	-	-	-	-
19	318	-	-	-	-	-	-
20	319	-	-	-	-	-	-
21	320	-	-	-	-	-	-
22	321	3,840,162	-	-	4,577	-	3,844,803
23	322	896,049	-	-	4,650	-	900,699
24	323	1,930,823	-	-	805	-	1,931,628
25	324	162,873	-	-	1,040	-	163,913
26	325	7,510	-	-	36	-	7,546
27	326	39,247	-	-	-	-	33,497
28	327	124,862	-	-	125	-	124,987
29	328	-	-	-	-	-	-
30	329	83,060	-	-	-	-	83,060
31	330	1,586	-	-	-	-	1,586
32	331	7,110	-	-	3	-	7,113
33	332	-	-	-	-	-	-
34	333	-	-	-	-	-	-
35	334	-	-	-	-	-	-
36	335	21,730	-	-	-	-	21,730
37	336	-	-	-	-	-	-
38	337	-	-	-	-	-	-
39	338	-	-	-	-	-	-
40	339	-	-	-	-	-	-
41	340	-	-	-	-	-	-
42	341	-	-	-	-	-	-
43	342	-	-	-	-	-	-
44	343	-	-	-	-	-	-
45	344	-	-	-	-	-	-
46	345	-	-	-	-	-	-
47	346	-	-	-	-	-	-
48	347	-	-	-	-	-	-
49	348	-	-	-	-	-	-
50	TOTALS	\$ 9,107,141	\$ (78,879)	\$ (1,449)	\$ 0	\$ -	\$ 9,027,020
51	Adjusted Accumulated Depreciation per Direct	\$ 9,107,141					\$ 9,107,141
52	Increase (decrease) in Plant-in-Service						\$ (80,121)
53	Adjustment to Plant-in-Service						\$ (80,121)

SUPPORTING SCHEDULES
Rebuttal B-2, pages 3.5 to 3.16
Rebuttal B-2, pages 4.1 to 4.3

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - A

Exhibit
Rebuttal Schedule B-2
Page 4.1
Witness: Bourassa

Line

No.

1 A/D Plant Retirements

2

3 304 - Structures and Improvements

\$ (41,971)

4 311 - Electric Pumping Equipment

(31,158)

5 339 - Other Plant and Miscellaneous Equipment

(5,750)

6

7 Increase (Decrease) in Plant-in-Service

\$ (78,879)

8

9

10

11

12

13

14

15

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - B

Exhibit
 Rebuttal Schedule B-2
 Page 4.2
 Witness: Bourassa

Line

No.

1 A/D on Capitalized Plant

2

3

4 Acct.

Decsription

Depr.

Original

Yr

Rate

Cost

Factor

Depreciation

5 307 Wells and Springs

3.33% \$

11,389

0.375

\$ 142

6 331 Trans. and Dist. Mains

2.00%

8,600

0.375

65

7

8

9 Increase (Decrease) in Plant-in-Service

\$ 207

10

11

12

13

14 SUPPORTING SCHEDULE

15 Rebuttal B-2, page 3.3

16

17

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - C

Exhibit
 Rebuttal Schedule B-2
 Page 4.3
 Witness: Bourassa

Line

No.

1 A/D on Removed Capitalized Office Rent

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

<u>Acct.</u>	<u>Description</u>	<u>Depr.</u> <u>Rate</u>	<u>Original</u> <u>Cost</u>	<u>Yr</u> <u>Factor</u>	<u>Depreciation</u>
307	Wells and Springs	3.33%	\$ (7,072)	5.79	\$ (1,363)
307	Wells and Springs	2.62%	(7,072)	0.46	(85)
					<hr/>
Increase (Decrease) in Plant-in-Service					<u>\$ (1,449)</u>

SUPPORTING SCHEDULE

Rebuttal B-2, page 3.4

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 4

Exhibit
Rebuttal Schedule B-2
Page 6
Witness: Bourassa

Line
No.

1	<u>Plant Retirements</u>		
2			
3	Advances-in-Aid of Construction	\$	(8,677)
4			
5	Contributions-in-Aid of Construction	\$	(7,888)
6			
7			
8			
9			
10			
11			
12			
13			
14			
15	See Staff Adjustment 1 Schedule JMM-W6		

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Working Capital

Exhibit
Rebuttal Schedule B-5
Page 1
Witness: Bourassa

Line

No.

1	Cash Working Capital (1/8 of Allowance		
2	Operation and Maintenance Expense)	\$	437,861
3	Pumping Power (1/24 of Pumping Power)		42,242
4	Purchased Water (1/24 of Purchased Water)		209
5			
6			
7			
8			
9	Total Working Capital Allowance	<u>\$</u>	<u>480,312</u>
10			
11			
12	Working Capital Requested	<u>\$</u>	<u>-</u>
13			
14			
15	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>	
16	Rebuttal C-1	Rebuttal B-1	
17			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
 Rebuttal Schedule C-1
 Page 1
 Witness: Bourassa

Line No.		Test Year Adjusted Results	Adjustment	Rebuttal Test Year Adjusted Results	Proposed Rate Increase	Rebuttal Adjusted with Rate Increase
1	Revenues					
2	Metered Water Revenues	\$ 6,347,481	\$ 403,707	\$ 6,751,188	\$ 6,759,028	\$ 13,510,216
3	Unmetered Water Revenues	-	-	-	-	-
4	Other Water Revenues	127,522	-	127,522	-	127,522
5		<u>\$ 6,475,002</u>	<u>\$ 403,707</u>	<u>\$ 6,878,709</u>	<u>\$ 6,759,028</u>	<u>\$ 13,637,738</u>
6	Operating Expenses					
7	Salaries and Wages	\$ -	-	\$ -	-	\$ -
8	Purchased Water	5,011	-	5,011	-	5,011
9	Purchased Power	1,013,811	-	1,013,811	-	1,013,811
10	Fuel for Power Production	58,147	(20,309)	37,839	-	37,839
11	Chemicals	503,278	(305)	502,973	-	502,973
12	Repairs and Maintenance	44,001	-	44,001	-	44,001
13	Office Supplies and Expense	-	-	-	-	-
14	Outside Services	12,469	-	12,469	-	12,469
15	Outside Services- Other	2,382,976	(4,409)	2,378,567	-	2,378,567
16	Outside Services- Legal	14,317	-	14,317	-	14,317
17	Water Testing	28,365	-	28,365	-	28,365
18	Rents	10,647	-	10,647	-	10,647
19	Transportation Expenses	151,879	-	151,879	-	151,879
20	Insurance - General Liability	95,469	-	95,469	-	95,469
21	Insurance - Health and Life	3,319	-	3,319	-	3,319
22	Reg. Comm. Exp.	63,662	-	63,662	-	63,662
23	Reg. Comm. Exp. - Rate Case	70,000	-	70,000	-	70,000
24	Miscellaneous Expense	81,664	(827)	80,837	-	80,837
25	Bad Debt Expense	3,264	5,284	8,548	-	8,548
26	Depreciation Expense	2,291,982	(4,715)	2,287,267	-	2,287,267
27	Taxes Other Than Income	-	-	-	-	-
28	Property Taxes	373,338	6,157	379,495	-	379,495
29	Income Tax	(449,705)	164,778	(284,927)	2,608,909	2,323,982
30	Total Operating Expenses	<u>\$ 6,757,892</u>	<u>\$ 145,654</u>	<u>\$ 6,903,546</u>	<u>\$ 2,608,909</u>	<u>\$ 9,512,455</u>
31	Operating Income	<u>\$ (282,890)</u>	<u>\$ 258,053</u>	<u>\$ (24,837)</u>	<u>\$ 4,150,119</u>	<u>\$ 4,125,283</u>
32	Other Income (Expense)					
33	Interest Income	-	-	-	-	-
34	Other income (loss)	-	-	-	-	-
35	Interest Expense	(432,478)	4,068	(428,410)	-	(428,410)
36	Other Expense	-	-	-	-	-
37		-	-	-	-	-
38	Total Other Income (Expense)	<u>\$ (432,478)</u>	<u>\$ 4,068</u>	<u>\$ (428,410)</u>	<u>\$ -</u>	<u>\$ (428,410)</u>
39	Net Profit (Loss)	<u><u>\$ (715,368)</u></u>	<u><u>\$ 262,121</u></u>	<u><u>\$ (453,247)</u></u>	<u><u>\$ 4,150,119</u></u>	<u><u>\$ 3,696,872</u></u>

SUPPORTING SCHEDULES:
 Rebuttal C-1, page 2

RECAP SCHEDULES:
 Rebuttal A-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rebuttal Schedule C-1
Page 2.1
Witness: Bourassa

Continued on
Page 2.2

Line No.	Test Year Adjusted Results	1 Depreciation Expense	2 Property Taxes	3 Meals & Entertainment Expense	4 Bad Debt Expense	5 Normalize Fuel for Power Prod.	6 Revenue Annualization Goodyear	7 Chemicals Expense
1	\$ 6,347,481						\$ 403,707	
2	Metered Water Revenues							
3	Unmetered Water Revenues							
4	Other Water Revenues							
5		\$ 6,475,002	\$ -	\$ -	\$ -		\$ 403,707	
6	Operating Expenses							
7	Salaries and Wages							
8	Purchased Water							
9	Purchased Power							
10	Fuel for Power Production							
11	Chemicals							
12	Repairs and Maintenance							
13	Office Supplies and Expense							
14	Outside Services							
15	Outside Services- Other							
16	Outside Services- Legal							
17	Water Testing							
18	Rents							
19	Transportation Expenses							
20	Insurance - General Liability							
21	Insurance - Health and Life							
22	Reg. Comm. Exp.							
23	Reg. Comm. Exp. - Rate Case							
24	Miscellaneous Expense							
25	Bad Debt Expense							
26	Depreciation Expense							
27	Taxes Other Than Income							
28	Property Taxes							
29	Income Tax							
30	Total Operating Expenses							
31	Operating Income							
32	Other Income (Expense)							
33	Interest Income							
34	Other Income (loss)							
35	Interest Expense							
36	Other Expense							
37								
38	Total Other Income (Expense)							
39	Net Profit (Loss)							
40								
41								
42								
43								

SUPPORTING SCHEDULES:
Rebuttal C-2

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rebuttal Schedule C-1
Page 2.2
Witness: Bourassa

Continued from
Page 2.1

Line No.	8	9	10	11	12	13	Rebuttal Test Year Adjusted Results	Proposed Rate Increase	Rebuttal Adjusted with Rate Increase
1	Revenues								
2	Metered Water Revenues						\$ 6,751,188	\$ 6,759,028	\$ 13,510,216
3	Unmetered Water Revenues						-	-	-
4	Other Water Revenues						127,522	127,522	127,522
5							\$ 6,878,709	\$ 6,759,028	\$ 13,637,738
6	Operating Expenses								
7	Salaries and Wages						\$ -	\$ -	\$ -
8	Purchased Water						5,011		5,011
9	Purchased Power						1,013,811		1,013,811
10	Fuel for Power Production						37,839		37,839
11	Chemicals						502,973		502,973
12	Repairs and Maintenance						44,001		44,001
13	Office Supplies and Expense						-		-
14	Outside Services						12,469		12,469
15	Outside Services- Other						2,378,567		2,378,567
16	Outside Services- Legal						14,317		14,317
17	Water Testing						28,365		28,365
18	Rents						10,647		10,647
19	Transportation Expenses						151,879		151,879
20	Insurance - General Liability						95,469		95,469
21	Insurance - Health and Life						3,319		3,319
22	Reg. Comm. Exp.						63,662		63,662
23	Reg. Comm. Exp. - Rate Case						70,000		70,000
24	Miscellaneous Expense						80,837		80,837
25	Bad Debt Expense						8,548		8,548
26	Depreciation Expense						2,287,267		2,287,267
27	Taxes Other Than Income						-		-
28	Property Taxes						379,495		379,495
29	Income Tax						(284,927)	2,608,909	2,323,982
30	Total Operating Expenses						\$ -	\$ 2,608,909	\$ 2,608,909
31	Operating Income						\$ -	\$ 6,903,546	\$ 9,512,455
32	Other Income (Expense)						\$ -	\$ (24,837)	\$ 4,150,119
33	Interest Income						-	-	-
34	Other Income (loss)						-	-	-
35	Interest Expense						-	-	-
36	Other Expense						-	-	-
37							(428,410)		(428,410)
38	Total Other Income (Expense)						\$ -	\$ (428,410)	\$ (428,410)
39	Net Profit (Loss)						\$ -	\$ (453,247)	\$ 3,696,872

SUPPORTING SCHEDULES:
Rebuttal C-2

RECAP SCHEDULES:
Rebuttal C-1, page 1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses

Exhibit
Rebuttal Schedule C-2
Page 1
Witness: Bourassa

Line No.	1	2	3	4	5	6	Subtotal
	Depreciation Expense	Property Taxes	Meals & Entertainment	Bad Debt Expense	Fuel for Power Prod.	Revenue Annualization	
2							
3							
4						403,707	403,707
5	(4,715)	6,157	(827)	5,284	(20,309)		(14,410)
6							
7							
8	4,715	(6,157)	827	(5,284)	20,309	403,707	418,117
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

Line No.	7	8	9	10	11	12	Subtotal
	Annualize Chemicals Expense	Capitalized Expenses	Unnecessary Expenses	Central Office Costs	Interest Synchronization	Income Taxes	
20							
21							
22							
23							
24	(305)	(19,989)	(3,191)	18,771		164,778	145,654
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

Line No.	7	8	9	10	11	12	Subtotal
	Annualize Chemicals Expense	Capitalized Expenses	Unnecessary Expenses	Central Office Costs	Interest Synchronization	Income Taxes	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

Exhibit
Rebuttal Schedule C-2
Page 1
Witness: Bourassa

37	
38	
39	
40	
41	Revenues
42	
43	Expenses
44	
45	Operating
46	Income
47	
48	Interest
49	Expense
50	Other
51	Income /
52	Expense
53	
54	Net Income

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses
Adjustment Number 1

Exhibit
Rebuttal Schedule C-2
Page 2
Witness: Bourassa

Line
No.

1	<u>Depreciation Expense</u>		Rebuttal		
2			Adjusted		
3	Acct.		Original	Proposed	Rebuttal
4	No.	Description	Cost	Rates	Depreciation
5	301	Organization Cost	21,100	0.00%	-
6	302	Franchise Cost	-	0.00%	-
7	303	Land and Land Rights	1,284,595	0.00%	-
8	304	Structures and Improvements	24,649,251	3.33%	820,820
9	305	Collecting and Impounding Res.	-	2.50%	-
10	306	Lake River and Other Intakes	-	2.50%	-
11	307	Wells and Springs	2,393,491	3.33%	79,703
12	308	Infiltration Galleries and Tunnels	-	6.67%	-
13	309	Supply Mains	-	2.00%	-
14	310	Power Generation Equipment	202,269	5.00%	10,113
15	311	Electric Pumping Equipment	917,055	12.50%	114,632
16	320	Water Treatment Equipment	1,337,824	3.33%	44,550
17	320.1	Water Treatment Plant	1,885,770	3.33%	62,796
18	320.2	Chemical Solution Feeders	-	20.00%	-
19	330	Dist. Reservoirs & Standpipe	439,244	2.22%	9,751
20	330.1	Storage tanks	-	2.22%	-
21	330.2	Pressure Tanks	-	5.00%	-
22	331	Trans. and Dist. Mains	28,929,171	2.00%	578,583
23	333	Services	4,249,744	3.33%	141,516
24	334	Meters	4,138,752	8.33%	344,758
25	335	Hydrants	2,055,781	2.00%	41,116
26	336	Backflow Prevention Devices	38,387	6.67%	2,560
27	339	Other Plant and Misc. Equip.	259,531	6.67%	17,311
28	340	Office Furniture and Fixtures	551,757	6.67%	36,802
29	340.1	Computers and Software	-	20.00%	-
30	341	Transportation Equipment	177,165	20.00%	35,433
31	342	Stores Equipment	31,711	4.00%	1,268
32	343	Tools and Work Equipment	23,350	5.00%	1,168
33	344	Laboratory Equipment	-	10.00%	-
34	345	Power Operated Equipment	-	5.00%	-
35	346	Communications Equipment	119,710	10.00%	11,971
36	347	Miscellaneous Equipment	-	10.00%	-
37	348	Other Tangible Plant	-	10.00%	-
38					
39	TOTALS		\$ 73,705,658		\$ 2,354,852
40					
41	Less: Amortization of Contributions				
42	311	Electric Pumping Equipment	\$ 15,219	12.5000%	\$ (1,902)
43	331	Trans. and Dist. Mains	2,854,613	2.0000%	(57,092)
44	333	Services	151,402	3.3300%	(5,042)
45	334	Meters	29,899	8.3300%	(2,491)
46	335	Hydrants	52,935	2.0000%	(1,059)
47			\$ 3,104,068		\$ (67,586)
48					
49	Total Depreciation Expense				\$ 2,287,267
50					
51	Test Year Depreciation Expense				2,291,982
52					
53	Increase (decrease) in Depreciation Expense				(4,715)
54					
55	Adjustment to Revenues and/or Expenses				\$ (4,715)
56					
57	<u>SUPPORTING SCHEDULE</u>				
58	B-2, page 3				
59	B-2, page 6.4				

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 2

Exhibit
Rebuttal Schedule C-2
Page 3
Witness: Bourassa

Line
No.

1	<u>Property Taxes:</u>		
2			
3	Adjusted Revenues in year ended 09/30/08	\$	6,878,709
4	Adjusted Revenues in year ended 09/30/08		6,878,709
5	Proposed Revenues		<u>13,637,738</u>
6	Average of three year's of revenue	\$	9,131,719
7	Average of three year's of revenue, times 2	\$	18,263,437
8	Add:		
9	Construction Work in Progress at 10%	\$	-
10	Deduct:		
11	Book Value of Transportation Equipment		<u>94,101</u>
12			
13	Full Cash Value	\$	18,169,337
14	Assessment Ratio		21%
15	Assessed Value		<u>3,815,561</u>
16	Property Tax Rate		9.5187%
17			
18	Property Tax		363,193
19	Plus: Tax on Parcels		16,302
20			
21	Total Property Tax at Proposed Rates	\$	<u>379,495</u>
22	Property Taxes recorded during the test year		<u>373,338</u>
23	Change in Property Taxes	\$	<u><u>6,157</u></u>
24			
25			
26	Adjustment to Revenues and/or Expenses	\$	<u><u>6,157</u></u>
27			
28			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
ADJUSTMENTS TO REVENUES AND/OR EXPENSES
Adjustment Number 3

Exhibit
Rebuttal Schedule C-2
Page 4
Witness: Bourassa

Line

No.

1 Contractual Services - Aerotek

2

3 Remove Contractual Services related to Black Mountain Sewer Company

\$ (42,200)

4

5

6

7 Increase(decrease) in Contractual Services

\$ (42,200)

8

9

10

11 Adjustment to Revenue and/or Expense

\$ (42,200)

12

13

14

15

16

17 See Testimony

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 3

Exhibit
Rebuttal Schedule C-2
Page 4
Witness: Bourassa

Line

No.

1 Miscellaneous Expense

2

3

4 Beverages expenses included in Miscellaneous expense \$ (827)

5

6

7

8 Increase(decrease) in Materials and Supplies \$ (827)

9

10

11 Adjustment to Revenue and/or Expense \$ (827)

12

13 SUPPORTING SCHEDULES

14 Staff Schedule JMM-W16 Adjustment #3

15

16

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 4

Exhibit
Rebuttal Schedule C-2
Page 5
Witness: Bourassa

Line

No.

1 Bad Debt Expense

2

3

4 Normalized Bad Debt Expense

\$ 8,548

5

6 Bad Debt Expense per Direct

3,264

7

8

9 Increase(decrease) in Bad Debt Expense

\$ 5,284

10

11

12 Adjustment to Revenue and/or Expense

\$ 5,284

13

14

15 SUPPORTING SCHEDULES

16 Staff Schedule JMM-W17 Adjustment #4

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 5

Exhibit
Rebuttal Schedule C-2
Page 6
Witness: Bourassa

Line
No.

1	<u>Normalize Fuel For Power Production</u>	
2		
3	2006 - Fuel for Power Production expense	\$ 309
4	2007 - Fuel for Power Production expense	55,059
5	2008 - Fuel for Power Production expense	<u>58,147</u>
6	Total	\$ 113,516
7		
8	Normalization period - 3 years	3.00
9		
10	Normalized Fuel for Power Production expense	\$ 37,839
11		
12	Adjusted Test Year Fuel for Power Production expense	<u>58,147</u>
13		
14	Increase(decrease) in Fuel for Power Production	<u>\$ (20,309)</u>
15		
16		
17	Adjustment to Revenue and/or Expense	<u>\$ (20,309)</u>
18		
19	<u>SUPPORTING SCHEDULES</u>	
20	E-2	

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 6

Exhibit
Rebuttal Schedule C-2
Page 7
Witness: Bourassa

Line

No.

1 Revenue Annualization

2

3

4 Reverse Proforma Reduction if Revenues from City of Goodyear

\$ 403,707

5

6

7 Increase(decrease) in Revenues

\$ 403,707

8

9

10 Adjustment to Revenue and/or Expense

\$ 403,707

11

12

13

14

15

16

17

18 SUPPORTING SCHEDULE

19 RUCO Schedule 4, page 2 of 15 Adjustment No. 1

20

21

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 7

Exhibit
Rebuttal Schedule C-2
Page 8
Witness: Bourassa

Line

No.

1 Chemicals Expense

2

3

4 Hills Brothers Chemicals expense outside the test year.

\$ (305)

5

6

7 Increase(decrease) in Chemicals Expense

\$ (305)

8

9

10 Adjustment to Revenue and/or Expense

\$ (305)

11

12

13

14

15

16

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 8

Exhibit
Rebuttal Schedule C-2
Page 9
Witness: Bourassa

Line

No.

1	<u>Capitalized Expenses</u>	
2		
3		
4		
5	307 - Wells and Springs - Hydro Controls and Pump Systems (clocks for wells)	\$ (1,114)
6	307 - Wells and Springs - Southwest Grd Wtr Consult. (well spacing evaluation)	(1,380)
7	307 - Wells and Springs - Southwest Grd Wtr Consult. (well impact analysis)	(4,823)
8	307 - Wells and Springs - Southwest Grd Wtr Consult. (well rehabilitation)	(4,072)
9	331 - Distribution Mains - Narasimhan Consulting Services (Dist. Sys. Eval.)	<u>(8,600)</u>
10		
11	Total Capitalized Expenses	\$ (19,989)
12		
13	Increase(decrease) in Contractual Services - Other	<u>\$ (19,989)</u>
14		
15		
16	Adjustment to Revenue and/or Expense	<u>\$ (19,989)</u>
17		
18		
19	<u>SUPPORTING SCHEDULE</u>	
20	Rebuttal B-2, page 3.3	
21		

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 9

Exhibit
Rebuttal Schedule C-2
Page 10
Witness: Bourassa

Line

No.

1 Remove Unncessary Expense

2

3 Meals and Entert: Exp cost for the DBack game \$ (6,400)

4 Meals and Entert: BALANCE DUE FOR 2008 XMAS PART (953)

5 Meals and Entert: DJ SERVICE - XMAS PARTY (495)

6 Meals and Entert: For Holiday Party Dec. 2008 (4,959)

7 Meals and Entert: Catered Lunch (412)

8 Total \$ (13,219)

9

10 Water Divison 4-factor allocation % 24.14%

11

12 Increase (decrease) in Contractual Services - Other \$ (3,191)

13

14

15 Adjustment to Revenue and/or Expense \$ (3,191)

16

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 10

Exhibit
Rebuttal Schedule C-2
Page 11
Witness: Bourassa

Line No.		Actual Total	Adjustments	Rejoinder Total	Utility Infrastructure		Utility Infrastructure		LPSCo Allocation by Customer	Rejoinder LPSCo Allocation
		Cost Pool ¹		Cost Pool	Allocation %	Group Allocated	Group Allocated	Count		
9	Audit	\$ 997,476		\$ 997,476	26.98%	\$ 266,462		23.32%		62,139
10	Tax Services	383,940		383,940	26.98%	103,603		23.32%		24,160
11	Legal	722,428		722,428	26.98%	194,941		23.32%		45,460
12	Other Professional Services	448,761		448,761	26.98%	121,094		23.32%		28,239
13	Management Fee - Total	636,255		636,255	26.98%	171,688		23.32%		40,038
14	Unit Holder Communications	277,582		277,582	26.98%	74,903		23.32%		17,467
15	Trustee Fees	225,052		225,052	26.98%	60,728		23.32%		14,162
16	Escrow & Transfer Agent Fees	63,843		63,843	26.98%	17,227		23.32%		4,017
17	Rent	295,887		295,887	26.98%	79,843		23.32%		18,619
18	Licenses/Fees & Permits	128,206	(145,642) ¹	(17,436)	26.98%	-4,705		23.32%		(1,097)
19	Office Expenses	761,628	(46,186) ¹	715,442	26.98%	193,056		23.32%		45,021
20	Depreciation	194,727		194,727	26.98%	52,545		23.32%		12,254
22	Total (Canadian dollars CAD)	\$ 5,125,785	\$ (191,828)	\$ 4,933,957		\$ 1,331,385			\$	\$ 310,479
23	Factor	1.00	1.00	1.00		1.00				1.00
24	Total (US dollars USD)	\$ 5,125,785	\$ (191,828)	\$ 4,933,957		\$ 1,331,385			\$	\$ 310,479
26	Infrastructure Cost Allocation per Direct (USD) ²									
27	Increase (decrease) in Infrastructure Allocated Costs (USD)									
31	Adjustment to Revenues and/or Expenses									
32									\$	\$ 291,708
33									\$	\$ 18,771
34									\$	\$ 18,771

¹ Per Response to JMM 5.5

² Per Response to JMM 1.42

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 11

Exhibit
Rebuttal Schedule C-2
Page 12
Witness: Bourassa

Line
No.

1	<u>Interest Synchronization</u>		
2			
3			
4	Fair Value Rate Base	\$ 37,502,569	
5	Weighted Cost of Debt	1.14%	
6	Interest Expense	\$ 428,410	
7			
8	Test Year Interest Expense	<u>\$ 432,478</u>	
9			
10	Increase (decrease) in Interest Expense	(4,068)	
11			
12			
13			
14	Adjustment to Revenue and/or Expense	<u>\$ 4,068</u>	

15					
16					
17	<u>Weighted Cost of Debt Computation</u>				
18					
19		<u>Amount</u>	<u>Percent</u>	<u>Cost</u>	<u>Weighted Cost</u>
20	Debt	\$ 11,506,844	17.86%	6.39%	1.14%
21	Equity	\$ 52,906,962	82.14%	12.00%	9.86%
22	Total	\$ 64,413,805	100.00%		11.00%

23
24
25
26

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 12

Exhibit
Rebuttal Schedule C-2
Page 13
Witness: Bourassa

Line
No.

1	<u>Income Tax Computation</u>		
2			
3			
4			
5			
6			
7	Taxable Income before adjustments	\$ (738,174)	\$ 6,020,855
8	Adjustments to taxable Income		
9	Taxable Income	<u>\$ (738,174)</u>	<u>\$ 6,020,855</u>
10			
11			
12			
13	Income Before Taxes	<u>\$ (738,174)</u>	<u>\$ 6,020,855</u>
14			
15	Arizona Income Before Taxes		\$ 6,020,855
16			
17	Less Arizona Income Tax		<u>\$ 419,533</u>
18	Rate = 6.97%		
19	Arizona Taxable Income		\$ 5,601,322
20			
21	Arizona Income Taxes		\$ 419,533
22			
23	Federal Income Before Taxes		\$ 6,020,855
24			
25	Less Arizona Income Taxes		<u>\$ 419,533</u>
26			
27	Federal Taxable Income		<u>\$ 5,601,322</u>
28			
29			
30			
31	FEDERAL INCOME TAXES:		
32	15% BRACKET		\$ 7,500
33	25% BRACKET		\$ 6,250
34	34% BRACKET		\$ 8,500
35	39% BRACKET		\$ 91,650
36	34% BRACKET		\$ 1,790,549
37			Rate
38	Federal Income Taxes		<u>\$ 1,904,449</u> 31.63%
39			
40			
41	Total Income Tax		<u>\$ 2,323,982</u>
42			
43	Overall Tax Rate		<u>38.60%</u>
44			
45	Income Tax at Proposed Rates Effective Rate	→	<u>\$ (284,927)</u>
46			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Gross Revenue Conversion Factor

Exhibit
Rebuttal Schedule C-3
Page 1
Witness: Bourassa

Line No.	Description	Percentage of Incremental Gross Revenues
1	Federal Income Taxes	31.63%
2		
3	State Income Taxes	6.97%
4		
5	Other Taxes and Expenses	0.00%
6		
7		
8	Total Tax Percentage	38.60%
9		
10	Operating Income % = 100% - Tax Percentage	61.40%
11		
12		
13		
14		
15	<u>1</u> = Gross Revenue Conversion Factor	
16	Operating Income %	1.6286
17		
18	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>
19		Rebuttal A-1
20		

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Cost of Service Study, Using Commodity Demand Method

Operating Margins at Present Rates

Exhibit
Rebuttal Schedule G-1
Page 1

Witness: Bourassa

Line No.	Meter Size->	Totals	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	4"	8"	10"
1	Water Revenues	\$ 6,722,618	\$ 33,349	\$ 2,072,857	\$ 2,169,094	\$ 266,823	\$ 1,570,524	\$ 188,685	\$ 403,707	\$ 17,579
2	Revenue Annualizations	27,680	1,256	(8,559)	(7,229)	8,052	23,091	11,068	-	-
3	Misc. Revenues ¹	127,522	956	74,622	45,235	1,500	5,011	173	16	8
4	Reconciliation H-1 to C-1 ¹	890	7	521	316	10	35	1	0	0
5	Total Revenues	\$ 6,878,710	\$ 35,568	\$ 2,139,441	\$ 2,207,416	\$ 276,385	\$ 1,598,661	\$ 199,928	\$ 403,723	\$ 17,587
6										
7	Operating Expenses ²	\$ 4,521,711	\$ 21,905	\$ 1,845,629	\$ 1,517,414	\$ 140,826	\$ 714,149	\$ 92,183	\$ 179,765	\$ 9,840
8	Depreciation and									
9	Amortization ²	2,287,267	8,765	955,166	873,684	56,277	337,744	33,559	15,892	6,179
10	Property Tax ³	379,495	1,962	118,032	121,782	15,248	88,197	11,030	22,273	970
11	Income Tax ⁴	(284,927)	482	(368,747)	(182,579)	20,424	153,437	21,887	70,423	(254)
12	Total Operating Expenses	\$ 6,903,546	\$ 33,114	\$ 2,550,079	\$ 2,330,302	\$ 232,775	\$ 1,293,527	\$ 158,659	\$ 288,354	\$ 16,736
13	Operating Income	\$ (24,836)	\$ 2,453	\$ (410,639)	\$ (122,886)	\$ 43,610	\$ 305,134	\$ 41,269	\$ 115,369	\$ 852
14	Interest Expense ⁵	432,493	1,679	181,228	170,166	10,827	58,857	6,140	2,335	1,259
15	Net Income	\$ (457,329)	\$ 774	\$ (591,867)	\$ (293,052)	\$ 32,783	\$ 246,277	\$ 35,130	\$ 113,034	\$ (407)
16	Rate Base ⁶	\$ 37,481,469	\$ 145,539	\$ 15,705,959	\$ 14,747,263	\$ 938,327	\$ 5,100,776	\$ 532,077	\$ 202,391	\$ 109,138
17	Return on Rate Base ⁷	-0.07%	1.69%	-2.61%	-0.83%	4.65%	5.98%	7.76%	57.00%	0.78%
18										
19	Percent of Total Customers		0.75%	58.52%	35.47%	1.18%	3.93%	0.14%	0.01%	0.01%
20										
21										

¹ Allocated based on customer counts.

² Operating Expenses and Depreciation computations are shown on Schedule G-4, Page 1.

³ Property Taxes allocation based on Revenues

⁴ Income Tax from Schedule C-1, at Proposed Rates. Income Taxes allocated based on taxable income

⁵ Interest Synchronized Interest Expense. Allocation based on Rate Base

⁶ Rate Base computations are shown on Schedule G-3, Page 1

⁷ Operating Income Divided by Rate Base

⁸ 8 inch customer (Goodyear) is expected to leave system in the future. See testimony of Greg Sorenson.

Operating Margins at Proposed Rates

Witness: Bourassa

Test Year Ended September 30, 2008

Exhibit
Rebuttal Schedule G-3
Page 1
Witness: Bourassa

	Totals	5/8 x 3/4"	3/4"	1"	1 1/2"	2"	4"	8"	10"
Line No.									
Plant, Minus Accumulated Depreciation, Advances and Contributions in Aid, Meter Deposits, and Deferred Income Tax (from Schedule G-5, Page 1)									
Commodity \$	\$ 603,292	\$ 2,329	\$ 177,909	\$ 172,287	\$ 28,028	\$ 147,901	\$ 21,584	\$ 51,490	\$ 1,764
Demand	\$ 31,006,625	105,803	12,388,512	12,516,206	830,005	4,436,424	478,849	145,935	104,891
Customer	\$ 2,507,043	18,794	1,457,059	889,308	29,487	98,506	3,402	324	162
Service	\$ 2,055,790	14,254	1,112,667	750,266	27,641	139,347	9,684	1,287	643
Meter	\$ 1,308,720	4,359	559,811	419,195	23,166	278,598	18,558	3,355	1,678
Totals	\$ 37,481,469	\$ 145,539	\$ 15,705,959	\$ 14,747,263	\$ 938,327	\$ 5,100,776	\$ 532,077	\$ 202,391	\$ 109,138
Net Rate Base	\$ 37,481,469	\$ 145,539	\$ 15,705,959	\$ 14,747,263	\$ 938,327	\$ 5,100,776	\$ 532,077	\$ 202,391	\$ 109,138
Allocation %	100.00%	0.39%	41.90%	39.35%	2.50%	13.61%	1.42%	0.54%	0.29%

Exhibit
Rebuttal Schedule G-4
Page 1
Witness: Bourassa

[illegible]

Summary of Allocation of Expenses to Customer Classes

Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Allocation of Rate Base by Function

Exhibit
Rebuttal Schedule G-5
Page 1
Witness: Bourassa

Line No.	Rate Base	Adjusted	Demand	Commodity	Customer	Meter	Service	Totals
1	Plant minus (Accumulated Depreciation	\$ 37,481,469	\$ 31,006,625	\$ 603,292	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790	\$ 37,481,469
2	Contributions in Aid of Construction							
3	Advances in Aid of Construction,							
4	Meter Deposits and Deferred Income Tax)							
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
		37,481,469	31,006,625	603,292	2,507,043	1,308,720	2,055,790	37,481,469

Test Year Ended September 30, 2008

Allocation of Plant, Less Contributions and Advances in Aid of

Construction, Meter Deposits and Accumulated Depreciation to Functions

Exhibit
Rebuttal Schedule G-5
Page 2
Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Allocation of Plant, Less Contributions and Advances in Aid of

Construction, Meter Deposits and Accumulated Depreciation to Functions

Exhibit
Rebuttal Schedule G-5
Page 2.1
Witness: Bourassa

Line No.	Account No.	Description	Original Cost Plant	Accumulated Depreciation	Total Net Plant Values	Demand	Commodity	Customer	Meter	Service
1		General Plant Continued								
2	347	Miscellaneous Equipment	-	-	-	-	-	-	-	-
3	348	Other Tangible Plant	-	-	-	-	-	-	-	-
4		Subtotal General Plant	\$ 903,694	\$ 238,476	\$ 665,218	\$ 48,021	\$ -	\$ 570,834	\$ -	\$ 46,363
5		Total Plant	\$ 73,684,558	\$ 9,027,020	\$ 64,657,538	\$ 53,490,775	\$ 3,101,531	\$ 2,462,702	\$ 2,207,123	\$ 3,395,408
6										
7		Contributions in Aid of Construction, Net	(3,096,180)	860,706	(2,235,474)	(1,977,529)	(219,725)	(38,220)		
8		Advances in Aid of Construction	(22,336,975)		(22,336,975)	(20,103,277)	(2,233,697)			
9		Meter Deposits	(2,238,022)		(2,238,022)				(898,404)	(1,339,618)
10		Deferred Income Tax	(448,160)		(448,160)	(403,344)	(44,816)			
11		Deferred Reg Assets	82,561		82,561			82,561		
12		Unamortized Debt Service Costs	-		-			-		
13		Totals	\$ 45,647,783	\$ 9,887,726	\$ 37,481,469	\$ 31,006,625	\$ 603,292	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790
14		Rate Bases (Plant - (AIAC, CIAC, Meter Deposits & Accum. Depr.))			\$ 37,481,469	\$ 31,006,625	\$ 603,292	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Allocation of Expenses to Functions

Exhibit
Rebuttal Schedule G-6
Page 1
Witness: Bourassa

Line No.	Description	Adjusted	Demand	Commodity	Customer	Meter	Service	Totals
		\$	\$	\$	\$	\$	\$	\$
1	Salaries and Wages ¹	5,011	-	5,011	-	-	-	5,011
2	Purchased Water ¹	1,013,811	-	1,013,811	-	-	-	1,013,811
3	Purchased Power ¹	37,839	-	37,839	-	-	-	37,839
4	Fuel For Power Production ¹	502,973	-	502,973	-	-	-	502,973
5	Chemicals ¹	44,001	39,600	4,400	-	-	-	44,001
6	Repairs and Maintenance ¹	-	-	-	-	-	-	-
7	Office Supplies and Expense	12,469	-	-	12,469	-	-	12,469
8	Outside Services	2,378,567	951,427	475,713	951,427	-	-	2,378,567
9	Outside Services - Other ¹	14,317	-	-	14,317	-	-	14,317
10	Outside Services - Legal	28,365	25,529	2,837	-	-	-	28,365
11	Water Testing ¹	10,647	-	-	10,647	-	-	10,647
12	Rents	151,879	37,970	-	113,909	-	-	151,879
13	Transportation Expenses ¹	95,469	-	-	95,469	-	-	95,469
14	Insurance - General Liability	3,319	-	-	3,319	-	-	3,319
15	Insurance - Health and Life	63,662	-	-	63,662	-	-	63,662
16	Reg. Comm. Exp.	70,000	63,000	-	7,000	-	-	70,000
17	Reg. Comm. Exp. - Rate Case	80,837	-	-	80,837	-	-	80,837
18	Miscellaneous Expense	8,548	-	-	8,548	-	-	8,548
19	Bad Debt Expense	2,287,267	1,607,576	86,101	114,848	342,267	136,475	2,287,267
20	Depreciation Expense ²	-	-	-	-	-	-	-
21	Taxes Other Than Income	379,495	-	-	-	-	-	379,495
22	Property Taxes, Allocated on Schedules G-1 & G-2	2,323,982	-	-	-	-	-	2,323,982
23	Income Tax, Allocated on Schedules G-1 & G-2	-	-	-	-	-	-	-
24								
25	Total	\$ 9,512,455	\$ 2,725,101	\$ 2,128,683	\$ 1,476,452	\$ 342,267	\$ 136,475	\$ 6,808,978

¹ See Schedule G-7, page 2.1.

² Depreciation allocation computed on Schedule G-6, Page 2.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Allocation of Depreciation Expense to Functions

Exhibit
Rebuttal Schedule G-6
Page 2
Witness: Bourassa

Line No.	Account No.	Description	Original Cost	Depreciation Rate	Depreciation Expense	Total Depr. Expense	Demand	Commodity	Customer	Meter	Service
1		Intangible									
2	301	Organization	\$ -		\$ -						
3	302	Franchises	-		-						
4											
5		Subtotal Intangible	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
6											
7		Source of Supply & Pumping Plant									
8	303	Land and Land Rights	\$ 1,284,595	0.000%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	304	Structures and Improvements	24,649,251	3.330%	820,820	820,820	820,820	-	-	-	-
10	305	Collecting and Impounding Res.	-	2.500%	-	-	-	-	-	-	-
11	306	Lakes, Rivers, Other Intakes	-	2.500%	-	-	-	-	-	-	-
12	307	Wells and Springs	2,393,491	3.330%	79,703	79,703	71,733	7,970	-	-	-
13	308	Infiltration Galleries and Tunnels	-	6.670%	-	-	-	-	-	-	-
14	309	Supply Mains	-	2.000%	-	-	-	-	-	-	-
15	310	Power Generation Equipment	202,269	5.000%	10,113	10,113	9,102	1,011	-	-	-
16	311	Electric Pumping Equipment	917,055	12.500%	114,632	114,632	103,169	11,463	-	-	-
17		Subtotal Source of Supply & Pumping Plant	\$ 29,446,661		\$ 1,025,269	\$ 1,025,269	\$ 1,004,824	\$ 20,445	\$ -	\$ -	\$ -
18											
19		Water Treatment									
20	320	Water Treatment Equipment	3,223,594	3.330%	107,346	107,346	96,611	10,735	-	-	-
21		Subtotal Water Treatment	\$ 3,223,594		\$ 107,346	\$ 107,346	\$ 96,611	\$ 10,735	\$ -	\$ -	\$ -
22											
23		Transmission and Distribution Plant									
24	330	Distribution Reservoirs & Standpipe	\$ 439,244	2.220%	\$ 9,751	\$ 9,751	\$ 8,776	\$ 975	\$ -	\$ -	\$ -
25	331	Transmission and Distribution Mains	28,929,171	2.000%	578,583	578,583	520,725	57,858	-	-	-
26	333	Services	4,249,744	3.330%	141,516	141,516	-	-	-	-	141,516
27	334	Meters	4,138,752	8.330%	344,758	344,758	-	-	-	344,758	-
28	335	Hydrants	2,055,781	2.000%	41,116	41,116	-	-	41,116	-	-
29	336	Backflow Prevention Devices	38,387	6.670%	2,560	2,560	2,304	256	-	-	-
30	339	Other Plant and Miscellaneous Equipment	259,531	6.670%	17,311	17,311	15,580	1,731	-	-	-
31		Subtotal Transmission and Distribution Plant	\$ 40,110,609		\$ 1,135,596	\$ 1,135,596	\$ 547,385	\$ 60,821	\$ 41,116	\$ 344,758	\$ 141,516
32											
33		General Plant									
34	340	Office Furniture and Fixtures	\$ 551,757	6.670%	\$ 36,802	\$ 36,802	\$ -	\$ -	\$ 36,802	\$ -	\$ -
35	341	Transportation Equipment	177,165	20.000%	35,433	35,433	8,858	-	26,575	-	-
36	342	Stores Equipment	31,711	4.000%	1,268	1,268	-	-	1,268	-	-
37	343	Tools and Work Equipment	23,350	5.000%	1,168	1,168	-	-	1,168	-	-
38	344	Laboratory Equipment	-	10.000%	-	-	-	-	-	-	-
39	345	Power Operated Equipment	-	5.000%	-	-	-	-	-	-	-
40	346	Communications Equipment	119,710	10.000%	11,971	11,971	2,993	-	8,978	-	-

Exhibit
Schedule
Page 2.1
Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Summary of Commodity - Demand Method Functions Factors

Exhibit

Rebuttal Schedule G-7

Page 1

Witness: Bourassa

Line
No.

	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	4"	8"	10"	Totals
1									
2									
3	Description								
4	Commodity	0.386%	29.490%	28.558%	4.646%	24.516%	3.578%	8.535%	100.00%
5	Demand	0.341%	39.954%	40.366%	2.677%	14.308%	1.544%	0.471%	100.00%
6	Customer	0.750%	58.518%	35.472%	1.176%	3.929%	0.136%	0.013%	100.00%
7	Services	0.693%	54.124%	36.495%	1.345%	6.778%	0.471%	0.063%	100.00%
8	Meters	0.333%	42.775%	32.031%	1.770%	21.288%	1.418%	0.256%	100.00%
9									
10									
11									
12									
13									

SUPPORTING SCHEDULES

G-7, page 3

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
COMMODITY - DEMAND METHOD FUNCTION FACTORS
Plant and Depreciation Expense Allocations Functions

Exhibit
Rebuttal Schedule G-7
Page 2
Witness: Bourassa

Line

No.

<u>1</u>	<u>Description</u>	<u>Total</u>	<u>Demand</u>	<u>Commodity</u>	<u>Customer</u>
3	Wells	1.00	0.90	0.10	
4	Pumps & Equipment	1.00	0.90	0.10	
5	Trans. & Dist. Mains	1.00	0.90	0.10	
6	Structures & Improv.	1.00	1.00		
7	Land	1.00	1.00		
8	Customer	1.00			1.00
9	Services	1.00			1.00
10	Meters	1.00			1.00
11	Fire Hydrants	1.00			1.00
12	Transportation Equip.	1.00	0.25		0.75
13	Office Furniture	1.00			1.00
14	Communication Equip.	1.00	0.25		0.75
15	Water Treatment Equip.	1.00	0.90	0.10	
16					
17					
18					
19					
20					

Line No.	Expense Type	Total	Demand	Commodity	Customer	Meters	Services
1	Repairs and Maintenance ¹	1.00	0.90	0.10	-	-	-
2	Contractual Services ²	1.00	0.40	0.20	0.40	-	-
3	Purchased Power/Fuel for Power Prod. ³	1.00	-	1.00	-	-	-
4	Purchased Water ⁴	1.00	-	1.00	-	-	-
5	Transportation ⁵	1.00	0.25	-	0.75	-	-
6	Chemicals ⁶	1.00	-	1.00	-	-	-
7	Water Testing ⁷	1.00	0.90	0.10	-	-	-
8	Salaries and Wages ⁸	1.00	0.40	0.20	0.40	-	-

¹ Estimated based on examination of costs in repairs and maintenance and professional judgement.

² Estimated based on examination of costs included in contractual services and professional judgement.

³ 100% related to pumping and water production.

⁴ 100% related to pumping and water production.

⁵ Based on allocation of transportation equipment. See G-7, page 2.

⁶ 100% related to water production.

⁷ Based on allocation of well plant and equipment. See G-7, page 2.

⁸ The Company does not have recorded salaries and wages expense. See allocation of contractual services.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Development of Class Allocation Factors

Exhibit
 Rebuttal Schedule G-7
 Page 3
 Witness: Bourassa

COMMODITY ALLOCATION FACTOR

<u>Meter Size</u>	(a) Total Gallons (in 1,000's) <u>In Test Year</u>	Percent of <u>Total</u>
5/8" x 3/4"	13,649	0.39%
3/4"	1,042,724	29.49%
1"	1,009,774	28.56%
1-1/2"	164,274	4.65%
2"	866,848	24.52%
3"	-	0.00%
4"	126,502	3.58%
6"	-	0.00%
8"	301,780	8.535%
10"	10,338	0.292%
Totals	3,535,889	100.00%

DEMAND ALLOCATION FACTOR

<u>Meter Size</u>	Number of Meters and/or <u>Services</u>	Equiv- alent <u>Weight</u>	Equivalent Number of Meters and/or <u>Services</u>	Percent of <u>Total</u>
5/8" x 3/4"	116	1.0	116	0.34%
3/4"	9,055	1.5	13,583	39.95%
1"	5,489	2.5	13,723	40.37%
1-1/2"	182	5.0	910	2.68%
2"	608	8.0	4,864	14.31%
3"	-	16.0	0	0.00%
4"	21	25.0	525	1.54%
6"	-	50.0	0	0.00%
8"	2	80.0	160	0.47%
10"	1	115.0	115	0.34%
Totals	15,474		33,995	100.00%

CUSTOMER ALLOCATION FACTOR

<u>Meter Size</u>	Number of Meters	Percent of <u>Total</u>
5/8" x 3/4"	116	0.75%
3/4"	9,055	58.52%
1"	5,489	35.47%
1-1/2"	182	1.18%
2"	608	3.93%
3"	-	0.00%
4"	21	0.14%
6"	-	0.00%
8" (c)	2	0.01%
10"	1	0.01%
Totals	15,474	100.00%

SERVICES ALLOCATION FACTOR (b)

<u>Meter Size</u>	Number of <u>Services</u>	Install- ation <u>Cost</u>	Weighted Number <u>Services</u>	Percent of <u>Total</u>
5/8" x 3/4"	116	\$ 445.00	51,620	0.69%
3/4"	9,055	445.00	4,029,475	54.12%
1"	5,489	495.00	2,717,055	36.50%
1-1/2"	182	550.00	100,100	1.34%
2"	608	830.00	504,640	6.78%
3"	0	1,165.00	0	0.00%
4"	21	1,670.00	35,070	0.47%
6"	0	2,330.00	0	0.00%
8"	2	2,330.00	4,660	0.06%
10"	1	2,330.00	2,330	0.03%
Totals	15,474		7,444,950	100.00%

METER ALLOCATION FACTOR (b)

<u>Meter Size</u>	Number of Meters	Meter <u>Cost</u>	Weighted Dollars of Meters	Percent of <u>Total</u>
5/8" x 3/4"	116	\$ 155.00	17,980	0.33%
3/4"	9,055	255.00	2,309,025	42.78%
1"	5,489	315.00	1,729,035	32.03%
1-1/2"	182	525.00	95,550	1.77%
2"	608	1,890.00	1,149,120	21.29%
3"	0	2,545.00	0	0.00%
4"	21	3,645.00	76,545	1.42%
6"	0	6,920.00	0	0.00%
8"	2	6,920.00	13,840	0.26%
10"	1	6,920.00	6,920	0.13%
Totals	15,474		5,398,015	100.00%

(a) Includes customer and gallon sold annualization.

(b) Meter and Service Line cost from Arizona Corporation Commission Memo of February 21, 2008 from Marlin Scott, Jr.. Meter costs based on compound meters. Cost of service line and meter is based on costs allowed for a compound meter installation.

(c) 8 inch customer(s) expected to leave system. See testimony of Greg Sorenson.

Using Function Costs and Expenses

**Cost of Service Study Using Commodity / Demand Method
Computation of Monthly Minimums for Demand Charge**

Exhibit
Rebuttal Schedule G-8
Page 2
Witness: Bourassa

[illegible]

Cost of Service Study Using Commodity / Demand Method Computation Demand Charge and Commodity

**Exhibit
Rebuttal Schedule G-8
Page 3
Witness: Bourassa**

Line No.	Description	Commodity	Customer	Service	Meter	Demand
1	Return on Rate Base	66,399	275,930	226,264	144,040	3,412,649
2	Less: Miscellaneous Revenues		(127,522)			
3						
4	Expenses (From Sch. G-6, Page 1)	2,128,683	1,476,452	136,475	342,267	2,725,101
5	Property taxes		379,495			
6	Income Taxes		2,323,982			
7	Total Revenue Requirement by function	2,195,082	4,328,337	362,739	486,308	6,137,750
8	Gallons Sold (in 1,000's)(Zero Gallons in Minimum) (G-7, page 3)	3,535,889				
9	Computed Commodity Rate	\$ 0.6208				
10	Annualized Number of Bills		185,688			
11	Equivalent Meters and Service Lines			407,940	407,940	407,940
12	Customer Charge (line 18 divided by line 21)		\$ 23.31			
13	Meter, Service Line & Demand Charge (Line 18 divided by Line 22)			0.89	1.19	15.05
14	Total Monthly Minimum Charge for a 5/8 Inch Meter (Sum of Customer					\$ 40.44
15	Service Line, Meter and Demand Charge on Lines 23 & Line 24)					
16						
17						
18	Monthly Minimum					
19	5/8 Inch Meter	\$ 40.44	1.0	\$ 40.44		
20	3/4 Inch Meter	\$ 40.44	1.5	\$ 60.66		
21	1 Inch Meter	\$ 40.44	2.5	\$ 101.09		
22	1 1/2 Inch Meter	\$ 40.44	5.0	\$ 202.18		
23	2 Inch Meter	\$ 40.44	8.0	\$ 323.49		
24	3 Inch Meter	\$ 40.44	16.0	\$ 646.99		
25	4 Inch Meter	\$ 40.44	25.0	\$ 1,010.92		
26	6 Inch Meter	\$ 40.44	50.0	\$ 2,021.84		
27	8 Inch Meter	\$ 40.44	80.0	\$ 3,234.94		
28						
29						
30						
31						

Line No.	Single Tier Rate Design with Some Customer and Demand Costs recovered via the Commodity Rate	Total Rev. Req.	%	Portion of Rev. Req.
1	Revenue Requirements Collected via Commodity Charge			
2				
3				
4				
5				
6	Customer, Service, and Meter Costs	\$ 5,177,384	45%	\$ 2,329,823
7	Demand Costs	6,137,750	45%	2,761,987
8	Commodity Costs	2,195,082	100%	2,195,082
9	Total Costs to be Collected via Commodity			\$ 7,286,892
10	Gallons Sold			3,535,889
11				
12	Commodity Charge (per 1,000 gallons)			\$ 2.061
13				
14	Revenue Requirement Collected			
15				
16	Monthly Minimum 5/8 Meter			
17	Total Revenue Requirement			\$ 13,510,216
18	Less: Portion of Revenue Requirement Collected via Commodity Charge			(7,286,892)
19	Balance to be Recovered through Monthly Minimum			\$ 6,223,323
20				
21	Number of Equivalent 5/8 Inch Meter Billings			407,940
22				
23	Computed Monthly Minimum 5/8 Inch Meter			\$ 15.26
24				
25				
26				
27	Meter Size	5/8"	Meter Ratio	Monthly Minimum
28	5/8 Inch Meter	\$ 15.26	1.0	\$ 15.26
29	3/4 Inch Meter	\$ 15.26	1.5	\$ 22.88
30	1 Inch Meter	\$ 15.26	2.5	\$ 38.14
31	1 1/2 Inch Meter	\$ 15.26	5.0	\$ 76.28
32	2 Inch Meter	\$ 15.26	8.0	\$ 122.04
33	3 Inch Meter	\$ 15.26	16.0	\$ 244.09
34	4 Inch Meter	\$ 15.26	25.0	\$ 381.39
35	6 Inch Meter	\$ 15.26	50.0	\$ 762.77
36	8 Inch Meter	\$ 15.26	80.0	\$ 1,220.44
37	10 Inch Meter	\$ 15.26		
38				

Exhibit
Rebuttal Schedule G-9
Page 1
Witness: Bourassa

Test Year Ended September 30, 2008

Comparison of Proposed Rates to Computed Costs

For a 5/8 Inch Residential Meter (With Required Operating Margin)

Column Number-->

(9)
(Col. 2 - Col. 8)

Total

Revenues

Line No.	Water Usage	Revenues			Service			Commodity Charges	Total Charges & Costs		
		Monthly Minimum	Total		Demand Charges	Customer Charges	Service Line Charges			Meter Charges	
			Commodity								
1	0	\$ 10.32	\$ -	\$ 10.32	\$ 15.05	\$ 23.31	\$ 0.89	\$ 1.19	0	\$ 40.44	\$ (30.12)
2	1,000	10.32	1.22	11.54	15.05	23.31	0.89	1.19	0.621	41.06	(29.52)
3	2,000	10.32	2.44	12.76	15.05	23.31	0.89	1.19	1.242	41.68	(28.92)
4	3,000	10.32	3.66	13.98	15.05	23.31	0.89	1.19	1.862	42.30	(28.32)
5	4,000	10.32	5.48	15.80	15.05	23.31	0.89	1.19	2.483	42.92	(27.12)
6	5,000	10.32	7.30	17.62	15.05	23.31	0.89	1.19	3.104	43.54	(25.92)
7	6,000	10.32	9.12	19.44	15.05	23.31	0.89	1.19	3.725	44.16	(24.72)
8	7,000	10.32	10.94	21.26	15.05	23.31	0.89	1.19	4.346	44.78	(23.52)
9	8,000	10.32	12.76	23.08	15.05	23.31	0.89	1.19	4.966	45.40	(22.32)
10	9,000	10.32	14.58	24.90	15.05	23.31	0.89	1.19	5.587	46.02	(21.12)
11	10,000	10.32	17.00	27.32	15.05	23.31	0.89	1.19	6.208	46.64	(19.32)
12	12,000	10.32	21.84	32.16	15.05	23.31	0.89	1.19	7.450	47.89	(15.73)
13	14,000	10.32	26.68	37.00	15.05	23.31	0.89	1.19	8.691	49.13	(12.13)
14	16,000	10.32	31.52	41.84	15.05	23.31	0.89	1.19	9.933	50.37	(8.53)
15	18,000	10.32	36.36	46.68	15.05	23.31	0.89	1.19	11.174	51.61	(4.93)
16	20,000	10.32	41.20	51.52	15.05	23.31	0.89	1.19	12.416	52.85	(1.33)
17	25,000	10.32	53.30	63.62	15.05	23.31	0.89	1.19	15.520	55.96	7.66
18	30,000	10.32	65.40	75.72	15.05	23.31	0.89	1.19	18.624	59.06	16.66
19	35,000	10.32	77.50	87.82	15.05	23.31	0.89	1.19	21.728	62.16	25.66
20	40,000	10.32	89.60	99.92	15.05	23.31	0.89	1.19	24.832	65.27	34.65
21	45,000	10.32	101.70	112.02	15.05	23.31	0.89	1.19	27.936	68.37	43.65
22	50,000	10.32	113.80	124.12	15.05	23.31	0.89	1.19	31.040	71.48	52.64
23	60,000	10.32	138.00	148.32	15.05	23.31	0.89	1.19	37.248	77.68	70.64
24	70,000	10.32	162.20	172.52	15.05	23.31	0.89	1.19	43.456	83.89	88.63
25	80,000	10.32	186.40	196.72	15.05	23.31	0.89	1.19	49.664	90.10	106.62
26	90,000	10.32	210.60	220.92	15.05	23.31	0.89	1.19	55.872	96.31	124.61
27	100,000	10.32	234.80	245.12	15.05	23.31	0.89	1.19	62.080	102.52	142.60

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Comparison of Proposed Rates to Computed Costs

For a 3/4 Inch Residential Meter (With Required Operating Margin)

Exhibit
Rebuttal Schedule G-9

Page 2

Witness: Bourassa

Column Number-->														
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)				
Line No.	Water Usage	Revenues			Demand Charges	Customer Charges	Service Line Charges	Meter Charges	Commodity Charges	Total Charges & Costs	Total Charges & Costs	Revenues minus Total	Total	
		Monthly Minimum	Commodity	Total										
1	0	\$ 26.32	\$ -	\$ 26.32	\$ 22.57	\$ 34.96	\$ 1.33	\$ 1.79	0	\$ 60.66	\$ (34.34)			
2	1,000	26.32	1.22	27.54	22.57	34.96	1.33	1.79	0.621	61.28	(33.74)			
3	2,000	26.32	2.44	28.76	22.57	34.96	1.33	1.79	1.242	61.90	(33.14)			
4	3,000	26.32	3.66	29.98	22.57	34.96	1.33	1.79	1.862	62.52	(32.54)			
5	4,000	26.32	5.48	31.80	22.57	34.96	1.33	1.79	2.483	63.14	(31.34)			
6	5,000	26.32	7.30	33.62	22.57	34.96	1.33	1.79	3.104	63.76	(30.14)			
7	6,000	26.32	9.12	35.44	22.57	34.96	1.33	1.79	3.725	64.38	(28.94)			
8	7,000	26.32	10.94	37.26	22.57	34.96	1.33	1.79	4.346	65.00	(27.74)			
9	8,000	26.32	12.76	39.08	22.57	34.96	1.33	1.79	4.966	65.62	(26.55)			
10	9,000	26.32	14.58	40.90	22.57	34.96	1.33	1.79	5.587	66.24	(25.35)			
11	10,000	26.32	17.00	43.32	22.57	34.96	1.33	1.79	6.208	66.86	(23.55)			
12	12,000	26.32	21.84	48.16	22.57	34.96	1.33	1.79	7.450	68.10	(19.95)			
13	14,000	26.32	26.68	53.00	22.57	34.96	1.33	1.79	8.691	69.35	(16.35)			
14	16,000	26.32	31.52	57.84	22.57	34.96	1.33	1.79	9.933	70.59	(12.75)			
15	18,000	26.32	36.36	62.68	22.57	34.96	1.33	1.79	11.174	71.83	(9.15)			
16	20,000	26.32	41.20	67.52	22.57	34.96	1.33	1.79	12.416	73.07	(5.56)			
17	25,000	26.32	53.30	79.62	22.57	34.96	1.33	1.79	15.520	76.18	3.44			
18	30,000	26.32	65.40	91.72	22.57	34.96	1.33	1.79	18.624	79.28	12.44			
19	35,000	26.32	77.50	103.82	22.57	34.96	1.33	1.79	21.728	82.38	21.43			
20	40,000	26.32	89.60	115.92	22.57	34.96	1.33	1.79	24.832	85.49	30.43			
21	45,000	26.32	101.70	128.02	22.57	34.96	1.33	1.79	27.936	88.59	39.42			
22	50,000	26.32	113.80	140.12	22.57	34.96	1.33	1.79	31.040	91.70	48.42			
23	60,000	26.32	138.00	164.32	22.57	34.96	1.33	1.79	37.248	97.90	66.41			
24	70,000	26.32	162.20	188.52	22.57	34.96	1.33	1.79	43.456	104.11	84.40			
25	80,000	26.32	186.40	212.72	22.57	34.96	1.33	1.79	49.664	110.32	102.40			
26	90,000	26.32	210.60	236.92	22.57	34.96	1.33	1.79	55.872	116.53	120.39			
27	100,000	26.32	234.80	261.12	22.57	34.96	1.33	1.79	62.080	122.74	138.38			

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Comparison of Proposed Rates to Computed Costs

For a 1 Inch Residential Meter (With Required Operating Margin)

Exhibit
Rebuttal Schedule G-9

Page 3

Witness: Bourassa

Line No.	Water Usage	Revenues					Service Line	Meter Charges	Commodity Charges	Total Charges & Costs	(9) Total Revenues minus Total Charges & Costs
		Monthly Minimum	Commodity	Total	Demand Charges	Customer Charges					
1	0	\$ 43.86	\$ -	\$ 43.86	\$ 37.61	\$ 58.27	\$ 2.22	\$ 2.98	0	\$ 101.09	\$ (57.23)
2	1,000	43.86	1.82	45.68	37.61	58.27	2.22	2.98	0.621	101.71	(56.03)
3	2,000	43.86	3.64	47.50	37.61	58.27	2.22	2.98	1.242	102.33	(54.83)
4	3,000	43.86	5.46	49.32	37.61	58.27	2.22	2.98	1.862	102.95	(53.63)
5	4,000	43.86	7.28	51.14	37.61	58.27	2.22	2.98	2.483	103.58	(52.44)
6	5,000	43.86	9.10	52.96	37.61	58.27	2.22	2.98	3.104	104.20	(51.24)
7	6,000	43.86	10.92	54.78	37.61	58.27	2.22	2.98	3.725	104.82	(50.04)
8	7,000	43.86	12.74	56.60	37.61	58.27	2.22	2.98	4.346	105.44	(48.84)
9	8,000	43.86	14.56	58.42	37.61	58.27	2.22	2.98	4.966	106.06	(47.64)
10	9,000	43.86	16.38	60.24	37.61	58.27	2.22	2.98	5.587	106.68	(46.44)
11	10,000	43.86	18.20	62.06	37.61	58.27	2.22	2.98	6.208	107.30	(45.24)
12	12,000	43.86	21.84	65.70	37.61	58.27	2.22	2.98	7.450	108.54	(42.84)
13	14,000	43.86	25.48	69.34	37.61	58.27	2.22	2.98	8.691	109.78	(40.44)
14	16,000	43.86	29.12	72.98	37.61	58.27	2.22	2.98	9.933	111.02	(38.04)
15	18,000	43.86	32.76	76.62	37.61	58.27	2.22	2.98	11.174	112.27	(35.65)
16	20,000	43.86	36.40	80.26	37.61	58.27	2.22	2.98	12.416	113.51	(33.25)
17	25,000	43.86	48.50	92.36	37.61	58.27	2.22	2.98	15.520	116.61	(24.25)
18	30,000	43.86	60.60	104.46	37.61	58.27	2.22	2.98	18.624	119.72	(15.26)
19	35,000	43.86	72.70	116.56	37.61	58.27	2.22	2.98	21.728	122.82	(6.26)
20	40,000	43.86	84.80	128.66	37.61	58.27	2.22	2.98	24.832	125.92	2.74
21	45,000	43.86	96.90	140.76	37.61	58.27	2.22	2.98	27.936	129.03	11.73
22	50,000	43.86	109.00	152.86	37.61	58.27	2.22	2.98	31.040	132.13	20.73
23	60,000	43.86	133.20	177.06	37.61	58.27	2.22	2.98	37.248	138.34	38.72
24	70,000	43.86	157.40	201.26	37.61	58.27	2.22	2.98	43.456	144.55	56.71
25	80,000	43.86	181.60	225.46	37.61	58.27	2.22	2.98	49.664	150.76	74.70
26	90,000	43.86	205.80	249.66	37.61	58.27	2.22	2.98	55.872	156.96	92.70
27	100,000	43.86	230.00	273.86	37.61	58.27	2.22	2.98	62.080	163.17	110.69

Column Number-->

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

Exhibit
Rebuttal Schedule H-1
Page 1
Witness: Bourassa

Line No.	Meter Size	Class	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1	5/8 Inch	Residential	\$ 7,929	\$ 12,382	\$ 4,453	56.16%	0.12%	0.09%
2	3/4 Inch	Residential	2,023,567	4,687,168	2,663,601	131.63%	30.10%	34.76%
3	1 Inch	Residential	1,986,898	4,526,700	2,539,802	127.83%	29.56%	33.57%
4	1.5 Inch	Residential	54,252	96,290	42,038	77.49%	0.81%	0.71%
5	2 Inch	Residential	159,078	234,227	75,149	47.24%	2.37%	1.74%
6	4 Inch	Residential	19,356	32,030	12,675	65.48%	0.29%	0.24%
7								
8		Subtotal	4,251,079	9,588,796	5,337,717	125.56%	63.24%	71.11%
9								
10	5/8 Inch	Commercial	\$ 24,344	\$ 40,954	\$ 16,610	68.23%	0.36%	0.30%
11	3/4 Inch	Commercial	12,320	30,065	17,745	144.04%	0.18%	0.22%
12	1 Inch	Commercial	31,023	71,401	40,379	130.16%	0.46%	0.53%
13	1.5 Inch	Commercial	64,158	113,680	49,522	77.19%	0.95%	0.84%
14	2 Inch	Commercial	394,253	586,940	192,688	48.87%	5.86%	4.35%
15	4 Inch	Commercial	64,990	108,554	43,564	67.03%	0.97%	0.81%
16	10 Inch	Commercial	17,579	31,839	14,260	81.12%	0.26%	0.24%
17								
18		Subtotal	\$ 608,665	\$ 983,433	\$ 374,768	61.57%	9.05%	7.29%
19								
20								
21	5/8 Inch	Irrigation	\$ 1,076	\$ 1,879	\$ 803	74.56%	0.02%	0.01%
22	3/4 Inch	Irrigation	36,970	82,378	45,407	122.82%	0.55%	0.61%
23	1 Inch	Irrigation	151,173	310,186	159,013	105.19%	2.25%	2.30%
24	1.5 Inch	Irrigation	148,413	262,651	114,238	76.97%	2.21%	1.95%
25	2 Inch	Irrigation	908,626	1,504,279	595,653	65.56%	13.52%	11.16%
26	4 Inch	Irrigation	104,340	180,169	75,829	72.67%	1.55%	1.34%
27								
28		Subtotal	1,350,600	2,341,542	990,943	73.37%	20.09%	17.36%
29								
30		Hydrant	108,568	114,936	\$ 6,369	5.87%	1.61%	0.85%
31		Bulk Water	403,707	455,597	51,891	12.85%	6.01%	3.38%
32								
33		Total Revenues Before Annualization	\$ 6,722,618	\$ 13,484,305	\$ 6,761,687	100.58%	100.00%	100.00%
34								

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Revenue Summary
With Annualized Revenues to Year End Number of Customers

Exhibit
Rebuttal Schedule H-1
Page 2
Witness: Bourassa

Line No.	Meter Size	Class	Revenue Annualization				Percent Change	Additional Bills	Additional Gallons to be Pumped (In 1,000's)
			Present Revenues	Proposed Revenues	Dollar Change				
1	5/8 Inch	Residential	\$ (64)	\$ (100)	(36)	0.00%	(6)	(27)	C-2, pg. 5.1
2	3/4 Inch	Residential	(8,221)	(18,503)	(10,282)	0.00%	(418)	(4,312)	C-2, pg. 5.2
3	1 Inch	Residential	(6,783)	(13,833)	(7,050)	0.00%	(167)	(3,576)	C-2, pg. 5.3
4	1.5 Inch	Residential	(1,235)	(2,119)	(884)	0.00%	(12)	(696)	C-2, pg. 5.4
5	2 Inch	Residential	14,837	19,943	5,106	34.41%	119	6,349	C-2, pg. 5.5
6	4 Inch	Residential	-	-	-	0.00%	-	-	-
7		Subtotal	\$ (1,467)	\$ (14,613)	(13,146)	896.40%	(484)	(2,262)	-
8	5/8 Inch	Commercial	1,321	2,136	815	61.71%	137	326	C-2, pg. 5.6
9	3/4 Inch	Commercial	(250)	(652)	(401)	0.00%	(17)	(107)	C-2, pg. 5.7
10	1 Inch	Commercial	(2,335)	(5,397)	(3,062)	0.00%	(81)	(1,011)	C-2, pg. 5.8
11	1.5 Inch	Commercial	1,280	2,201	920	71.87%	12	730	C-2, pg. 5.9
12	2 Inch	Commercial	19,732	27,090	7,359	37.29%	145	8,989	C-2, pg. 5.10
13	4 Inch	Commercial	11,068	17,673	6,604	59.67%	19	6,518	C-2, pg. 5.11
14	10 Inch	Commercial	-	-	-	0.00%	-	-	-
15		Subtotal	\$ 30,816	\$ 43,050	(14,059)	-45.62%	215	15,444	-
16	5/8 Inch	Irrigation	-	-	-	0.00%	-	-	C-2, pg. 5.12
17	3/4 Inch	Irrigation	(88)	(190)	(102)	0.00%	(3)	(53)	C-2, pg. 5.13
18	1 Inch	Irrigation	1,889	3,786	1,897	100.41%	35	1,104	C-2, pg. 5.14
19	1.5 Inch	Irrigation	8,006	13,859	5,852	73.10%	67	4,728	C-2, pg. 5.15
20	2 Inch	Irrigation	(13,467)	(21,985)	(8,518)	0.00%	(43)	(8,435)	C-2, pg. 5.16
21	4 Inch	Irrigation	-	-	-	0.00%	-	-	-
22		Subtotal	\$ (3,660)	\$ (4,530)	(871)	23.80%	56	(2,656)	-
23		Hydrant	1,990	2,108	118	5.93%	-	596	C-2, pg. 5.17
24		Bulk Water	-	-	-	0.00%	-	-	-
25		Subtotal	\$ 27,680	\$ 26,015	(27,958)	-101.01%	(213)	11,122	-
26		Total Revenue Annualization							

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

Exhibit
Schedule H-1
Page 3
Witness: Bourassa

Line No.	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1						
2						
3	\$ 6,722,618	\$ 13,484,305	\$ 6,761,687	100.58%	100.00%	100.00%
4	27,680	26,015	(1,665.10)	-6.02%	0.41%	0.19%
5	\$ 6,750,298	\$ 13,510,320	\$ 6,760,022	100.14%		
6						
7	\$ 127,522	\$ 127,522	-	0.00%	1.90%	0.95%
8	890	(104)	(994)	-111.69%	0.01%	0.00%
9	\$ 6,878,710	\$ 13,637,737	\$ 6,759,028	98.26%	0.00%	0.00%
10						
11						
12						
13						
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Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Customer Summary

Exhibit
Rebuttal Schedule H-2
Page 1
Witness: Bourassa

Line No.	Meter Size, Class	Average Number of Customers at 9/30/2008	(a)	Average Consumption	Average Bill		Proposed Increase	
					Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58		4,661 \$	10.80 \$	17.00	6.20 57.36%	
2	3/4 Inch Residential	8,919		9,537	18.64	42.20	23.56 126.39%	
3	1 Inch Residential	5,209		14,556	31.56	70.35	38.79 122.89%	
4	1.5 Inch Residential	44		57,667	102.47	175.63	73.16 71.40%	
5	2 Inch Residential	101		58,065	130.90	177.08	46.18 35.28%	
6	4 Inch Residential	3		308,972	537.59	847.71	310.12 57.69%	
7	Subtotal	14,333						
8								
9	5/8 Inch Commercial	148		5,342 \$	11.55 \$	20.04	8.49 73.51%	
10	3/4 Inch Commercial	57		8,000 \$	16.61	40.88	24.27 146.09%	
11	1 Inch Commercial	83		13,804	30.57	68.98	38.41 125.65%	
12	1.5 Inch Commercial	46		67,854	115.92	200.29	84.37 72.78%	
13	2 Inch Commercial	232		65,909	141.25	196.06	54.81 38.80%	
14	4 Inch Commercial	8		388,827	643.00	1,040.96	397.96 61.89%	
15	10 Inch Commercial	1		861,500	1,464.93	2,524.73	1,059.80 72.34%	
16	Subtotal	575						
17								
18	5/8 Inch Irrigation	3		18,722 \$	29.21 \$	49.63	20.41 69.88%	
19	3/4 Inch Irrigation	115		15,176	26.08	57.04	30.96 118.70%	
20	1 Inch Irrigation	215		34,762	58.24	115.99	57.75 99.16%	
21	1.5 Inch Irrigation	86		88,340	142.96	249.86	106.90 74.78%	
22	2 Inch Irrigation	234		204,389	324.04	531.18	207.14 63.92%	
23	4 Inch Irrigation	8		724,899	1,086.62	1,854.26	767.64 70.64%	
24	Subtotal	661						
25								
26	Hydrant	23		120,247 \$	400.62 \$	424.12	23.50 5.87%	
27	Bulk Water	2		12,574,167	16,820.65	18,983.23	2,162.58 12.86%	
28								
29	Total	15,594						

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Customer Summary

Exhibit
Rebuttal Schedule H-2
Page 2
Witness: Bourassa

Line No.	Meter Size, Class	(a) Average Number of Customers at 9/30/2008	Median Bill		Proposed Increase	
			Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58	9.36 \$	13.98	4.62	49.36%
2	3/4 Inch Residential	8,919	15.29	37.26	21.97	143.66%
3	1 Inch Residential	5,209	25.55	62.06	36.51	142.90%
4	1.5 Inch Residential	44	58.03	97.76	39.73	68.46%
5	2 Inch Residential	101	81.97	104.78	22.81	27.83%
6	4 Inch Residential	3	136.35	217.10	80.75	59.22%
7	Subtotal	14,333				
8						
9	5/8 Inch Commercial	148	13.74 \$	23.06	9.32	67.83%
10	3/4 Inch Commercial	57	9.17	28.14	18.97	206.83%
11	1 Inch Commercial	83	21.59	56.60	35.01	162.16%
12	1.5 Inch Commercial	46	83.11	140.14	57.03	68.62%
13	2 Inch Commercial	232	83.29	106.60	23.31	27.99%
14	8 Inch Commercial	2	14,816.67	16,751.52	1,934.85	13.06%
15	10 Inch Commercial	1	1,410.81	2,450.11	1,039.30	73.67%
16	Subtotal	569				
17						
18	5/8 Inch Irrigation	3	11.10 \$	19.42	8.32	74.95%
19	3/4 Inch Irrigation	115	13.97	37.24	23.27	166.54%
20	1 Inch Irrigation	215	34.79	74.80	40.01	115.00%
21	1.5 Inch Irrigation	86	92.35	157.08	64.73	70.09%
22	2 Inch Irrigation	234	216.61	334.22	117.61	54.30%
23	4 Inch Irrigation	8	740.91	1,220.46	479.55	64.72%
24	Subtotal	661				
25						
26	Hydrant	23	167.50 \$	198.46	30.96	18.48%
27	Bulk Water	2	14,816.67	16,751.52	1,934.85	13.06%
28						
29	Total	15,586				

(a) Average number of customers of less than one ('1'), indicates that less than 12 bills were issued during the year.

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Present and Proposed Rates

Exhibit
 Rebuttal Schedule H-3
 Page 1
 Witness: Bourassa

Line No.	Monthly Usage Charge for: Meter Size (All Classes):	Present Rates	Proposed Rates	Change	Percent Change
1	5/8 Inch	\$ 6.75	\$ 10.32	\$ 3.57	52.89%
2	3/4 Inch	8.30	26.32	18.02	217.06%
3	1 Inch	14.60	43.86	29.26	200.41%
4	1 1/2 Inch	28.60	54.08	25.48	89.09%
5	2 Inch	56.50	66.56	10.06	17.81%
6	3 Inch	NT	133.12	133.12	
7	4 Inch	132.00	208.00	76.00	57.58%
8	6 Inch	NT	416.00	416.00	
9	8 Inch	225.00	499.20	274.20	121.87%
10	10 Inch	330.00	956.80	626.80	189.94%
11	12 Inch	450.00	1,248.00	798.00	177.33%
12	Construction - Hydrants	\$ 100.00	by meter size		
13					
14					
15	Gallons In Minimum (All Meter Sizes and Classes)				
16					
17					
18	Commodity Rates				
19	(Residential, Commercial, Industrial)				
20					
21	All Meter Sizes (except Construction)				
22					
23					
24					
25	5/8 Inch and 3/4 Inch Meter - Residential				
26					
27					
28					
29	5/8 Inch and 3/4 Inch Meter Com., Irr.				
30					
31					
32	1 Inch Meter - All Classes except Constr.				
33					
34					
35	1.5 Inch Meter - All Classes except Constr.				
36					
37					
38	NT = No Tariff				

(Per 1,000 gallons)

Block	Present Rate	Proposed Rate
0 gallons to 5,000 gallons Over 5,000 gallons	\$ 0.87	N/A
	\$ 1.32	N/A
0 gallons to 3,000 gallons 3,001 gallons to 9,000 gallons over 9,000 gallons	N/A	\$ 1.22
	N/A	\$ 1.82
	N/A	\$ 2.42
0 gallons to 10,000 gallons over 10,000 gallons	N/A	\$ 1.82
	N/A	\$ 2.42
0 gallons to 20,000 gallons over 20,000 gallons	N/A	\$ 1.82
	N/A	\$ 2.42
0 gallons to 30,000 gallons over 30,000 gallons	N/A	\$ 1.82
	N/A	\$ 2.42

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Present and Proposed Rates

Exhibit
Rebuttal Schedule H-3
Page 2
Witness: Bourassa

Line No.	Commodity Rates (Residential, Commercial, Industrial)	Block	(Per 1,000 gallons)	
			Present Rate	Proposed Rate
1				
2				
3				
4				
5	2 Inch Meter - All Classes except Constr.	0 gallons to 50,000 gallons	\$ N/A	\$ 1.82
6		over 50,000 gallons	\$ N/A	\$ 2.42
7				
8	3 Inch Meter -All Classes except Constr.	0 gallons to 120,000 gallons	\$ N/A	\$ 1.82
9		over 120,000 gallons	\$ N/A	\$ 2.42
10				
11	4 Inch Meter- All Classes except Constr.	0 gallons to 180,000 gallons	\$ N/A	\$ 1.82
12		over 180,000 gallons	\$ N/A	\$ 2.42
13				
14	6 Inch Meter - All Classes except Constr.	0 gallons to 360,000 gallons	\$ N/A	\$ 1.82
15		over 360,000 gallons	\$ N/A	\$ 2.42
16				
17	8 Inch Meter - All Classes except Constr.	0 gallons to 670,000 gallons	\$ N/A	\$ 1.82
18		over 670,000 gallons	\$ N/A	\$ 2.42
19				
20	10 Inch Meter - All Classes except Constr.	0 gallons to 940,000 gallons	\$ N/A	\$ 1.82
21		over 940,000 gallons	\$ N/A	\$ 2.42
22				
23	12 Inch Meter - All Classes except Constr.	0 gallons to 1,660,000 gallons	\$ N/A	\$ 1.82
24		over 1,660,000 gallons	\$ N/A	\$ 2.42
25				
26				
27	Bulk Water	All Gallons	\$ N/A	\$ 1.47
28				
29				
30	Construction- Hydrants	All gallons	\$ 2.50	\$ 2.42
31				\$ (0.080)
32				-3.20%
33				
34				
35				
36				
37				
38				

Litchfield Park Service Company - Water Division
Changes in Representative Rate Schedules
Test Year Ended September 30, 2008

Exhibit
Rebuttal Schedule H-3
Page 3
Witness: Bourassa

Line No.	Other Service Charges	Present Rates	Proposed Rates
1	Establishment (Regular Hours) per Rule R14-2-403D (a)	\$ 20.00	\$ 20.00
2	Establishment (After Hours) per Rule R14-2-403D (a)	\$ 40.00	\$ 40.00
3	Re-Establishment of Service per Rule R14-2-403D (a)	(b)	(b)
4	Reconnection (Regular Hours) per Rule R14-2-403D (a)	\$ 50.00	\$ 50.00
5	Reconnection (After Hours) per Rule R14-2-403D (a)	\$ 65.00	\$ 65.00
6	Meter Test (if correct) per Rule R14-2-408F (c)	\$ 25.00	\$ 25.00
7	Meter Reread per Rule R14-2-408C (if correct)	\$ 5.00	\$ 5.00
8	NSF Check per Rule R14-2-409F (a)	\$ 20.00	\$ 20.00
9	Deferred Payment, Per Month	1.50%	1.50%
10	Late Charge	(d)	(d)
11	Service Calls - Per Hour/After Hours(e)	\$ 40.00	\$ 40.00
12	Deposit Requirements	(f)	(f)
13	Deposit Interest	3.50%	3.50%
14	Meter and Service lines	see H-3, page 4	
15	Main Extension Tariff	at Cost	at Cost
16			
17			
18			
19	(a) Service charges for customers taking both water and sewer service are not duplicative.		
20	(b) Minimum charge times number of full months off the system. per Rule R14-2-403(D).		
21	(c) \$25 plus cost of test		
22	(d) Greater of \$5.00 or 1.5% of unpaid balance.		
23	(e) No charge for service calls during normal working hours.		
24	(f) Per ACC Rules R14-2-403(B) <u>Residential</u> - two times the average bill.		
25	<u>Commercial</u> - two and one-half times the average bill.		
26			
27			
28	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
29	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
30	TAX. PER COMMISSION RULE 14-2-409D(5).		
31			
32			
33			
34			
35			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Meter and Service Line Charges

Exhibit
 Rebuttal Schedule H-3
 Page 4
 Witness: Bourassa

Line
No.

1

2 **Refundable Meter and Service Line Charges**

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	Present Service Line Charge	Present Meter Install- ation Charge	Total Present Charge	Proposed Service Line Charge	Proposed Meter Install- ation Charge	Total Proposed Charge
5/8 x 3/4 Inch			\$ 225.00	\$ 385.00	\$ 135.00	\$ 520.00
3/4 Inch			225.00	385.00	215.00	600.00
1 Inch			300.00	435.00	255.00	690.00
1 1/2 Inch			500.00	470.00	465.00	935.00
2 Inch			675.00			
Over 2 Inch			At Cost			
2 Inch / Turbine			NT	630.00	965.00	1,595.00
2 Inch / Compound			NT	630.00	1,690.00	2,320.00
3 Inch / Turbine			NT	805.00	1,470.00	2,275.00
3 Inch / Compound			NT	845.00	2,265.00	3,110.00
4 Inch / Turbine			NT	1,170.00	2,350.00	3,520.00
4 Inch / Compound			NT	1,230.00	3,245.00	4,475.00
6 Inch / Turbine			NT	1,730.00	4,545.00	6,275.00
6 Inch / Compound			NT	1,770.00	6,280.00	8,050.00
8 Inch & Larger			NT	At Cost	At Cost	At Cost
Constuction Water			\$ 1,500			\$ 1,500

N/T = No Tariff

**BOURASSA REBUTTAL
WASTEWATER SCHEDULES
(Rate Base – Phase I)**

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Computation of Increase in Gross Revenue
Requirements As Adjusted

Exhibit
Rebuttal Schedule A-1
Page 1
Witness: Bourassa

Line
No.

1	Fair Value Rate Base	\$	28,034,885
2			
3	Adjusted Operating Income		150,940
4			
5	Current Rate of Return		0.54%
6			
7	Required Operating Income	\$	3,083,837
8			
9	Required Rate of Return on Fair Value Rate Base		11.00%
10			
11	Operating Income Deficiency	\$	2,932,897
12			
13	Gross Revenue Conversion Factor		1.6286
14			
15	Increase in Gross Revenue Revenue Requirement	\$	4,776,618
16			
17	Test Year Revenues	\$	6,356,374
18	Increase in Gross Revenue Revenue Requirement	\$	4,776,618
19	Proposed Revenue Requirement	\$	11,132,993
20	% Increase		75.15%

Customer Classification	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
24 Residential	\$ 4,647,120	\$ 8,236,679	\$ 3,589,559	77.24%
25 Residential HOA	266,016	471,494	205,478	77.24%
26 Multi-unit Housing	518,888	919,818	400,931	77.27%
27 Small Commercial	84,318	149,463	65,145	77.26%
28 Measured Service:				
29 Regular Domestic	256,547	454,904	198,357	77.32%
30 Rest., Motels, Grocery, Dry Cleaning	222,936	395,322	172,386	77.33%
31 Wigwam Resort	115,929	205,502	89,573	77.27%
32 School	76,320	135,277	58,957	77.25%
33 Effluent	92,268	92,268	-	0.00%
34 Subtotal before Rev. Annualization	\$ 6,280,340	\$ 11,060,726	\$ 4,780,386	76.12%
35				
36 Revenue Annualization	\$ (27,512)	\$ (28,724)	\$ (1,213)	4.41%
37 Misc Revenues	99,755	99,755	-	0.00%
38 Reconciling Amount H-1 to C-1	3,791	1,236	(2,555)	-67.40%
39				
40 Total of Water Revenues	\$ 6,356,375	\$ 11,132,992	\$ 4,776,618	75.15%

SUPPORTING SCHEDULES:

45 Rebuttal B-1
46 Rebuttal C-1
47 Rebuttal C-3
48 Rebuttal H-1
49

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Summary of Rate Base

Exhibit
Rebuttal Schedule B-1
Page 1
Witness: Bourassa

Line No.		Original Cost Rate base	Fair Value Rate Base
1			
2	Gross Utility Plant in Service	\$ 59,833,807	\$ 59,833,807
3	Less: Accumulated Depreciation	<u>7,902,675</u>	<u>7,902,675</u>
4			
5	Net Utility Plant in Service	\$ 51,931,132	\$ 51,931,132
6			
7	<u>Less:</u>		
8	Advances in Aid of		
9	Construction	6,989,559	6,989,559
10	Contributions in Aid of		
11	Construction	18,643,786	18,643,786
12	Accumulated Amortization of CIAC	(2,072,117)	(2,072,117)
13			
14	Customer Meter Deposits	0	0
15	Deferred Income Taxes & Credits	335,020	335,020
16		-	-
17			
18			
19	<u>Plus:</u>		
20	Unamortized Finance		
21	Charges	-	-
22	Deferred Finance Charges	-	-
23	Allowance for Working Capital	-	-
24			
25			
26	Total Rate Base	<u>\$ 28,034,885</u>	<u>\$ 28,034,885</u>
27			
28			
29			
30	<u>SUPPORTING SCHEDULES:</u>		
31	Rebuttal B-2		
32	Rebuttal B-5		
33			
34			
35			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rebuttal Schedule B-2
Page 1
Witness: Bourassa

Line No.		Actual at End of <u>Test Year</u>	Proforma Adjustments <u>Amount</u>	Adjusted at end of <u>Test Year</u>
1	Gross Utility			
2	Plant in Service	\$ 60,394,260	(560,453)	\$ 59,833,807
3				
4	Less:			
5	Accumulated			
6	Depreciation	8,475,991	(573,316)	7,902,675
7				
8				
9	Net Utility Plant			
10	in Service	\$ 51,918,269		\$ 51,931,132
11				
12	Less:			
13	Advances in Aid of			
14	Construction	7,006,208	(16,649)	6,989,559
15				
16	Contributions in Aid of			
17	Construction (CIAC)	18,737,132	(93,346)	18,643,786
18				
19	Accumulated Amortization of CIAC	(2,072,117)	-	(2,072,117)
20				
21	Customer Meter Deposits	68,685	(68,685)	0
22	Deferred Income Taxes	15,987	319,033	335,020
23				
24				
25	Plus:			
26	Unamortized Finance			
27	Charges	-	-	-
28	Deferred Finance Chgs	134,528	(134,528)	-
29	Allowance for Working Capital	-	-	-
30				
31	Total	<u>\$ 28,296,903</u>		<u>\$ 28,034,885</u>

SUPPORTING SCHEDULES:
Rebuttal B-2, page 2

RECAP SCHEDULES:
Rebuttal B-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rebuttal Schedule B-2
Page 2
Witness: Bourassa

Line No.	Actual at End of Test Year	Proforma Adjustments					Adjusted at end of Test Year
		1	2	3	4	5	
		Plant	Accum. Depr.	DIT	AIAC/CIAC	Remove Security Deposit	Debt Issuance Costs
1	Gross Utility						
2	Plant in Service	\$ 60,394,260	(560,453)				\$ 59,833,807
3							
4	Less:						
5	Accumulated						
6	Depreciation	8,475,991	(573,316)				7,902,675
7							
8							
9	Net Utility Plant						
10	in Service	\$ 51,918,269	\$ (560,453)	\$ -	\$ -	\$ -	\$ 51,931,132
11							
12	Less:						
13	Advances in Aid of						
14	Construction	7,006,208			(16,649)		6,989,559
15							
16	Contributions in Aid of						
17	Construction (CIAC)	18,737,132			(93,346)		18,643,786
18							
19	Accumulated Amort of CIAC	(2,072,117)					(2,072,117)
20							
21	Customer Meter Deposits	68,685				(68,685)	0
22	Deferred Income Taxes	15,987		319,033			335,020
23							
24	Plus:						
25	Unamortized Finance						
26	Charges						
27	Deferred Finance Chgs	134,528					-
28	Allowance for Working Capital	-					-
29							
30							
31	Total	\$ 28,296,903	\$ (560,453)	\$ 573,316	\$ (319,033)	\$ 109,995	\$ 28,034,885
32							
33							
34							
35							
36							
37							

SUPPORTING SCHEDULES:

B-2, pages 3-6

E-1

RECAP SCHEDULES:

B-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1

Exhibit
Rebuttal Schedule B-2
Page 3
Witness: Bourassa

Line No.	Plant-in-Service	Adjusted Original Cost	A Plant Retirements	B Odor Control Unit	Adjustments C Capitalized Expenses	D Remove Office Rent	E Intentionally Left Blank	Rebuttal Adjusted Original Cost
1	351	1,783,426						1,783,426
2	353	19,319,421	(388,834)		3,725			18,941,384
3	354	543,670			5,004	7,072		548,674
4	355	1,161,105						1,161,105
5	360	23,113,391	(18,730)					23,094,661
6	361							
7	362							
8	363							
9	364	47,019						47,019
10	366	3,789,468						3,789,468
11	367	52,331						52,331
12	370	860,393						860,393
13	371	1,858,411	(103,992)		6,394			1,760,813
14	374	62,825						62,825
15	375	414,315						414,315
16	376	5,469,478		(38,250)				5,431,228
17	380	47,788						47,788
18	381	343,681						343,681
19	382	644,609	(43,421)		10,579			611,767
20	390	198,772						198,772
21	390.1							
22	391	26,078						26,078
23	392	8,968						8,968
24	393	56,167						56,167
25	394	173,948						173,948
26	396	418,996						418,996
27	398							
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
	TOTALS	\$ 60,394,260	\$ (554,977)	\$ (38,250)	\$ 25,702	\$ 7,072	\$ -	\$ 59,833,807
	Adjusted Plant-in-Service per Direct							\$ 60,394,260
	Increase (decrease) in Plant-in-Service							\$ (560,453)
	Adjustment to Plant-in-Service							\$ (560,453)
	SUPPORTING SCHEDULES							
	Rebuttal B-2, pages 3.1-3.3							
	Rebuttal B-2, pages 3.4-3.15							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- A

Exhibit
Rebuttal Schedule B-2
Page 3.1
Witness: Bourassa

Line

No.

1	<u>Plant Retirements</u>	
2		
3	354 - Structures and Improvements	\$ (388,834)
4	361 - Collection Sewer - Gravity	(18,730)
5	371 - Pumping Equipment	(103,992)
6	389 - Other Plant and Miscellaneous Equipment	<u>(43,421)</u>
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (554,977)</u>
9		
10		
11	For related AIAC and CIAC see Rebuttal Schedule B-2, page 6	
12		
13		
14		
15		
16	See Staff Adjustment 1 Schedule JMM-WW5 (from Exhibit MSJ Table G-1)	

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- B

Exhibit
Rebuttal Schedule B-2
Page 3.2
Witness: Bourassa

Line
No.

1	<u>Transfer of Odor Control Unit to Black Mountain Sewer Company ("BMSC")</u>	
2		
3	Original Cost of Odor Control Unit	\$ (38,250)
4		
5		
6		
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (38,250)</u>
9		
10		
11		
12		
13		
14		
15		
16	See Staff Adjustment 2 Schedule JMM-WW6	
17	(Actual cost is \$38,250 per updated documentation not \$38,625)	
18		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- C

Exhibit
Rebuttal Schedule B-2
Page 3.3
Witness: Bourassa

Line

No.

Capitalized Expenses

1			
2			
3	354 - Structures and Improvements - Dean Fence and Gate (fence)	\$	3,725
4	355 - Power Generation Equipment - Loftin Equipment Co. (generator duct)		5,004
5	371 - Pumping Equipment - Precision Electric (install rebuilt pump)	\$	1,530
6	371 - Pumping Equipment - Precision Electric (new reinforced strainer baskets)		4,864
7	Total 371 - Pumping Equipment		6,394
8	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor site plant and pole mnt)	\$	1,450
9	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor legal descr. & map)		550
10	389 - Other Plant and Misc. Equip. - Keogh Engineering (filter system repair)		8,054
11	389 - Other Plant and Misc. Equip. - Keogh Engineering (work on UV system)		525
12	Total 389 - Other Plant and Misc. Equip.		10,579
13			
14	Increase (Decrease) in Plant-in-Service	\$	25,702
15			
16			
17			
18			
19			
20	See testimony		
21			
22			

Mitchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.4

Account	No.	Description	Deprec.	Deprec.	Plant	2000	2001	2001	2001	2001	2001	2001	2001
			Rate	Rate									
			Before	After	At	Depr.	Additions	Adjustments	Additions	Retirements	AVD Only	Balance	
			Nov-02	Nov-02	12/31/2000								
351		Organization	0.00%	0.00%	-	-	-	-	-	-	-	-	-
353		Land	0.00%	0.00%	-	-	-	-	-	-	-	-	-
354		Structures & Improvements	2.52%	3.33%	-	-	-	-	1,742,400	-	-	1,742,400	-
355		Power Generation	2.52%	5.00%	21,372	269	-	-	-	-	-	21,372	539
360		Collection Sewer Forced	2.52%	2.00%	555,955	33,704	-	-	-	-	-	555,955	14,010
361		Collection Sewers Gravity	2.52%	2.00%	5,446,466	716,003	-	-	1,508,523	1,508,523	-	6,954,989	156,258
362		Special Collecting Structures	2.52%	2.00%	1,508,523	-	-	(1,508,523)	-	-	-	-	-
363		Customer Services	2.52%	2.00%	-	-	-	-	-	-	-	-	-
364		Flow Measuring Devices	2.52%	10.00%	11,020	417	-	-	-	-	-	11,020	278
366		Reuse Services	2.52%	2.00%	370,964	12,316	472,540	-	472,540	-	-	843,504	15,302
367		Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	-	-	-	-
370		Receiving Wells	2.52%	3.33%	-	-	-	-	-	-	-	-	-
371		Pumping Equipment	2.52%	12.50%	-	-	-	-	-	-	-	-	-
374		Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-	-	-
375		Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-	-	-
380		Treatment & Disposal Equipment	2.52%	5.00%	-	-	-	-	-	-	-	-	-
381		Plant Sewers	2.52%	5.00%	-	-	-	-	-	-	-	-	-
382		Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	-	-	-	-
389		Other Sewer Plant & Equipment	2.52%	6.67%	5,508	1,569	-	-	-	-	-	5,508	139
390		Office Furniture & Equipment	2.52%	6.67%	29,620	2,495	1,769	-	1,769	-	-	31,390	769
390.1		Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-	-	-
391		Transportation Equipment	2.52%	20.00%	225	9	-	-	-	-	-	225	6
392		Stores Equipment	2.52%	4.00%	-	-	-	-	-	-	-	-	-
393		Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	-	-	-	-
394		Laboratory Equip	2.52%	10.00%	-	-	-	-	-	-	-	-	-
396		Communication Equip	2.52%	10.00%	-	-	-	-	-	-	-	-	-
398		Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	4,460,750	614,247	-	-	-	-	-	4,460,750	112,411
		Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

12,410,403	1,381,028	474,310	1,742,400	2,216,710	-	14,627,113	299,711
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(See page 3.14) (See page 3.15)

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.5

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2002 Plant Additions	Goodyear Trmnt Plant 2002 Plant Adjustments	2002 Adjusted Plant Additions	2002 Plant Retirements	2002 Salvage/Adj. A/D Only	2002 Plant Balance	2002 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	1,742,400	-
354	Structures & Improvements	2.52%	3.33%	8,426,565	-	8,426,565	-	-	8,426,565	109,019
355	Power Generation	2.52%	5.00%	198,964	-	198,964	-	-	220,336	3,295
360	Collection Sewer Forced	2.52%	2.00%	-	-	-	(332,823)	-	223,132	9,648
361	Collection Sewers Gravity	2.52%	2.00%	1,246,938	-	1,246,938	-	-	8,201,927	187,693
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	515	-	515	-	-	11,535	354
366	Reuse Services	2.52%	2.00%	2,558,799	-	2,558,799	-	-	3,402,302	52,577
367	Reuse Meters And Installation	2.52%	8.33%	9,573	-	9,573	-	-	9,573	144
370	Receiving Wells	2.52%	3.33%	854,000	-	854,000	-	-	854,000	11,049
371	Pumping Equipment	2.52%	12.50%	1,328,499	-	1,328,499	-	-	1,328,499	22,263
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	4,246,579	-	4,246,579	-	-	4,246,579	57,895
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	-	-
382	Outfall Sewer Lines	2.52%	3.33%	343,681	-	343,681	-	-	343,681	4,446
389	Other Sewer Plant & Equipment	2.52%	6.67%	6,500	-	6,500	-	-	12,008	251
390	Office Furniture & Equipment	2.52%	20.00%	62,625	-	62,625	-	-	94,014	1,797
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	-	-	-	-	-	225	9
392	Stores Equipment	2.52%	4.00%	8,807	-	8,807	-	-	8,807	116
393	Tools, Shop And Garage Equip	2.52%	5.00%	13,557	-	13,557	-	-	13,557	185
394	Laboratory Equip	2.52%	10.00%	77,786	-	77,786	-	-	77,786	1,223
396	Communication Equip	2.52%	10.00%	320,224	-	320,224	-	-	320,224	5,033
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	\$ (4,460,750)	(4,460,750)	-	-	-	(726,658)
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-
Plant Held for Future Use										
TOTAL WATER PLANT				19,703,612	(4,460,750)	15,242,862	(332,823)	-	29,537,152	(259,660)

[illegible]

Mitchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
 Rebuttal Schedule B-2
 Page 3.7

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2004 Plant Additions	2004 Plant Adjustments ¹	2004 Adjusted Plant Additions	2004 Plant Retirements	2004 Salvage A/D Only	2004 Plant Balance	2004 Deprec.
351	Organization	0.00%	0.00%	41,026	-	41,026	-	-	1,783,426	-
353	Land	0.00%	0.00%	634,988	-	603,184	-	-	9,046,041	291,190
354	Structures & Improvements	2.52%	3.33%	85,152	(31,804)	85,152	-	-	305,488	13,146
355	Power Generation	2.52%	5.00%	40,504	(11,360)	29,145	-	-	252,277	4,754
360	Collection Sewer Forced	2.52%	2.00%	5,765,446	(51,113)	5,714,334	-	-	13,951,952	221,896
361	Collection Sewers Gravity	2.52%	2.00%	-	-	-	-	-	-	-
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	10,653	-	10,653	-	-	22,188	1,686
366	Reuse Services	2.52%	2.00%	17,461	-	17,461	-	-	3,454,791	68,921
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	855,200	28,478
371	Pumping Equipment	2.52%	12.50%	31,621	(604)	31,017	-	-	1,364,219	168,589
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	53,622	(1,063)	52,559	-	-	4,298,138	213,643
380	Treatment & Disposal Equipment	2.52%	5.00%	-	-	-	-	-	23,117	1,196
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	343,681	11,445
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	98,974	3,737
389	Other Sewer Plant & Equipment	2.52%	6.67%	97,241	(11,334)	85,907	-	-	126,871	7,801
390	Office Furniture & Equipment	2.52%	6.67%	19,825	-	19,825	-	-	-	-
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	225	45
391	Transportation Equipment	2.52%	20.00%	-	-	-	-	-	8,807	352
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	18,746	937
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	84,159	8,211
394	Laboratory Equip	2.52%	10.00%	4,092	-	4,092	-	-	325,412	32,426
396	Communication Equip	2.52%	10.00%	2,312	-	2,312	-	-	-	-
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

6,803,943	(107,278)	6,696,665	-	36,378,089	1,079,527
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¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.8

Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2005 Plant Additions	2005 Plant Adjustments ¹	2005 Adjusted Plant Additions	2005 Plant Retirements	2005 Salvage A/D Only	2005 Plant Balance	2005 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	392,473	(14,187)	378,286	-	-	1,783,426	307,532	15,274
355	Power Generation	2.52%	5.00%	-	-	-	-	-	305,488	5,773	325,870
360	Collection Sewer Forced	2.52%	2.00%	80,546	(7,843)	72,702	-	-	324,979	-	-
361	Collection Sewers Gravity	2.52%	2.00%	4,818,977	(135,919)	4,683,058	-	-	18,635,010	-	-
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	17,896	(341)	17,555	-	-	39,743	3,097	69,128
366	Reuse Services	2.52%	2.00%	3,187	-	3,187	-	-	3,457,977	1,114	28,560
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	-	-
370	Receiving Wells	2.52%	3.33%	4,917	-	4,917	-	-	860,117	176,841	-
371	Pumping Equipment	2.52%	12.50%	112,737	(11,712)	101,025	-	-	1,465,243	-	-
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	222,515	(872)	221,642	-	-	4,520,781	220,498	-
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156	-
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445	-
389	Other Sewer Plant & Equipment	2.52%	6.67%	207,463	(1,715)	205,748	-	-	304,722	13,463	-
390	Office Furniture & Equipment	2.52%	6.67%	10,431	-	10,431	-	-	137,301	8,810	-
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	9,314	-	9,314	-	-	9,540	976	-
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	8,807	352	-
393	Tools, Shop And Garage Equip	2.52%	5.00%	13,641	-	13,641	-	-	32,387	1,278	-
394	Laboratory Equip	2.52%	10.00%	-	-	-	-	-	84,159	8,416	-
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541	-
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-
Plant Held for Future Use											
TOTAL WATER PLANT					5,894,095	(172,590)	5,721,506	-	42,089,595	1,232,124	

¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-92	Deprec. Rate After Nov-92	2006 Plant Additions	2006 Plant Adjustments ¹	2006 Adjusted Plant Additions	2006 Plant Retirements	2006 Salvage A/D Only	2006 Plant Balance	2006 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	1,585,531	(1,378)	1,584,153	-	-	1,783,426	-
355	Power Generation	2.52%	5.00%	132,105	-	132,105	-	-	11,008,480	340,206
360	Collection Sewer Forced	2.52%	2.00%	756,548	(268)	756,280	-	-	437,593	18,577
361	Collection Sewers Gravity	2.52%	2.00%	569,086	(78,415)	490,670	-	-	1,081,259	14,062
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	19,125,681	377,607
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	4,961	-	4,961	-	-	44,704	4,222
366	Reuse Services	2.52%	2.00%	-	-	-	-	-	3,457,977	69,160
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	860,117	28,642
371	Pumping Equipment	2.52%	12.50%	11,189	(568)	10,621	-	-	1,475,864	183,819
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	104,008	(4,522)	99,487	-	-	4,620,267	228,526
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389	Other Sewer Plant & Equipment	2.52%	6.67%	11,685	(443)	11,242	-	-	315,963	20,700
390	Office Furniture & Equipment	2.52%	6.67%	9,956	-	9,956	-	-	147,257	9,490
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	6,193	-	6,193	-	-	15,733	2,527
392	Stores Equipment	2.52%	4.00%	161	-	161	-	-	8,968	355
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	32,387	1,619
394	Laboratory Equip	2.52%	10.00%	5,277	-	5,277	-	-	89,436	8,680
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	2.52%	4.00%	-	-	-	-	-	-	-
	Rounding	0.00%	0.00%	-	-	-	-	-	-	-
Plant Held for Future Use										
TOTAL WATER PLANT				3,196,701	(85,595)	3,111,106	-	-	45,210,701	1,354,449

¹ Affiliate Profit

Mitchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2007 Plant Additions	2007 Plant Adjustments ¹	2007 Adjusted Plant Additions	2007 Plant Retirements	2007 Salvage A/D Only	2007 Plant Balance	2007 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	1,783,426	-
353	Land	0.00%	0.00%	-	-	-	-	-	10,974,659	366,019
354	Structures & Improvements	2.52%	3.33%	23,919	(57,739)	(33,821)	-	-	543,475	24,527
355	Power Generation	2.52%	5.00%	105,882	-	105,882	-	-	1,091,663	21,730
360	Collection Sewer Forced	2.52%	2.00%	10,434	-	10,434	-	-	20,252,859	393,785
361	Collection Sewers Gravity	2.52%	2.00%	1,229,391	(102,212)	1,127,179	-	-	-	-
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	2,315	-	2,315	-	-	47,019	4,586
366	Reuse Services	2.52%	2.00%	210,273	(665)	209,608	-	-	3,667,586	71,256
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	277	-	277	-	-	860,393	28,646
371	Pumping Equipment	2.52%	12.50%	55,130	(70)	55,060	-	-	1,530,924	187,924
374	Reuse Distribution Reservoirs	2.52%	2.50%	62,625	-	62,625	-	-	62,625	783
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	547,598	(11,615)	535,983	-	-	5,156,250	244,413
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389	Other Sewer Plant & Equipment	2.52%	6.67%	83,941	(1,357)	82,584	-	-	398,547	23,829
390	Office Furniture & Equipment	2.52%	2.00%	37,215	-	37,215	-	-	184,473	11,063
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	3,460	-	3,460	-	-	19,193	3,493
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	8,968	359
393	Tools, Shop And Garage Equip	2.52%	5.00%	3,053	-	3,053	-	-	35,440	1,696
394	Laboratory Equip	2.52%	10.00%	83,968	-	83,968	-	-	173,405	13,142
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-
Plant Held for Future Use										
TOTAL WATER PLANT				2,459,482	(173,659)	2,285,823	-	-	47,496,524	1,443,506

¹ Affiliate Profit

Litchfield Park Services Company - Wastewater Division
Plant Additions and Retirements

Exhibit
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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Jan. to Sep. 2008 Additions	Jan. to Sep. 2008 Plant Adjustments ¹	Capitalized Expenses	Jan. to Sep. 2008 Adjusted Plant Additions	Staff Plant Retirements	Transferred Odor Control Unit	A/D Lift Station Decommission	Transferred Odor Control Unit A/D	Jan. to Sep. 2008 Plant Balance	Jan. to Sep. 2008 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-	-	1,783,426	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-	-	18,934,312	378,344
354	Structures & Improvements	2.52%	3.33%	8,402,971	(58,210)	3,725	8,348,487	(388,834)	-	(8,003)	-	548,674	20,478
355	Power Generation	2.52%	5.00%	195	-	5,004	5,199	-	-	-	-	1,161,105	16,896
360	Collection Sewer Forced	2.52%	2.00%	69,566	(154)	-	69,412	-	-	-	-	23,094,661	325,247
361	Collection Sewers Gravity	2.52%	2.00%	2,897,310	(36,779)	-	2,860,532	(18,730)	-	-	-	-	-
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	-	-	-	-	-	-	-	-	47,019	3,526
366	Reuse Services	2.52%	2.00%	122,768	(886)	-	121,881	-	-	-	-	3,789,468	55,928
367	Reuse Meters And Installation	2.52%	8.33%	38,953	-	-	38,953	-	-	-	-	52,331	2,053
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	-	-	-	860,393	21,488
371	Pumping Equipment	2.52%	12.50%	328,661	(1,174)	6,394	333,881	(103,992)	-	-	-	1,760,813	159,175
374	Reuse Distribution Reservoirs	2.52%	2.50%	200	-	-	200	-	-	-	-	62,825	1,176
375	Reuse Trans. and Dist. System	2.52%	2.50%	414,315	-	-	414,315	-	-	-	-	414,315	3,884
380	Treatment & Disposal Equipment	2.52%	5.00%	313,338	(111)	-	313,227	-	(38,250)	-	(11,040)	5,431,228	199,232
381	Plant Sewers	2.52%	5.00%	24,893	(222)	-	24,671	-	-	-	-	47,788	1,329
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	-	-	-	343,661	8,583
389	Other Sewer Plant & Equipment	2.52%	6.67%	260,567	(14,506)	10,579	256,641	(43,421)	-	-	-	611,767	26,357
390	Office Furniture & Equipment	2.52%	6.67%	14,299	-	-	14,299	-	-	-	-	198,772	9,586
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	-	-	-	-	-	-	-	-	26,078	3,395
392	Stores Equipment	2.52%	4.00%	6,885	-	-	6,885	-	-	-	-	8,968	269
393	Tools, Shop And Garage Equip	2.52%	5.00%	20,727	-	-	20,727	-	-	-	-	56,167	1,718
394	Laboratory Equip	2.52%	10.00%	544	-	-	544	-	-	-	-	173,948	13,026
396	Communication Equip	2.52%	10.00%	93,585	-	-	93,585	-	-	-	-	418,996	27,915
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-	-

Plant Held for Future Use
 TOTAL WATER PLANT

13,009,777	(112,041)	25,702	12,923,438	(554,977)	(38,250)	(8,003)	(11,040)	59,826,735	1,279,606
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¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
Rebuttal Schedule B-2
Page 3.12

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account	2000	2001	2002	2003	2004	2005
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	-	-	-	109,019	389,895	681,085	988,616
355	Power Generation	2.52%	5.00%	269	808	4,103	4,103	15,120	28,266	43,540
360	Collection Sewer Forced	2.52%	2.00%	33,704	47,714	(275,462)	(275,462)	(270,999)	(266,245)	(260,473)
361	Collection Sewers Gravity	2.52%	2.00%	716,003	872,262	1,059,955	1,059,955	1,224,350	1,446,246	1,772,116
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	417	694	1,049	1,049	2,202	3,888	6,985
366	Reuse Services	2.52%	2.00%	12,316	27,618	80,195	80,195	148,592	217,513	286,641
367	Reuse Meters And Installation	2.52%	8.33%	-	-	144	144	1,100	2,214	3,329
370	Receiving Wells	2.52%	3.33%	-	-	11,049	11,049	39,507	67,965	96,545
371	Pumping Equipment	2.52%	12.50%	-	-	22,263	22,263	188,620	357,208	534,050
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	-	-	-	57,895	270,224	483,867	704,365
381	Plant Sewers	2.52%	5.00%	-	-	-	-	578	1,734	2,890
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	4,446	15,891	27,336	38,780
389	Other Sewer Plant & Equipment	2.52%	6.67%	1,569	1,708	1,959	1,959	2,795	6,532	19,995
390	Office Furniture & Equipment	2.52%	6.67%	2,495	3,263	5,060	5,060	11,766	19,567	28,377
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	9	14	23	23	68	113	1,090
392	Stores Equipment	2.52%	4.00%	-	-	116	116	469	821	1,173
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	185	185	992	1,930	3,208
394	Laboratory Equip	2.52%	10.00%	-	-	1,223	1,223	9,115	17,326	25,742
396	Communication Equip	2.52%	10.00%	-	-	5,033	5,033	37,199	69,625	102,166
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	614,247	726,658	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

1,381,028	1,680,739	1,068,255	2,087,483	3,167,010	4,398,134
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Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account		
				2006	2007	2008
351	Organization	0.00%	0.00%	-	-	-
353	Land	0.00%	0.00%	-	-	-
354	Structures & Improvements	3.33%	3.33%	1,328,823	1,694,842	1,676,349
355	Power Generation	2.52%	5.00%	62,117	86,644	107,121
360	Collection Sewer Forced	2.52%	2.00%	(246,410)	(224,681)	(207,785)
361	Collection Sewers Gravity	2.52%	2.00%	2,148,723	2,543,508	2,850,025
362	Special Collecting Structures	2.52%	2.00%	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	11,207	15,793	19,320
366	Reuse Services	2.52%	2.00%	355,800	427,056	482,984
367	Reuse Meters And Installation	2.52%	8.33%	4,443	5,557	7,610
370	Receiving Wells	2.52%	3.33%	125,187	153,833	175,322
371	Pumping Equipment	2.52%	12.50%	717,869	905,793	960,976
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	763	1,959
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	3,884
380	Treatment & Disposal Equipment	2.52%	5.00%	932,891	1,177,304	1,365,496
381	Plant Sewers	2.52%	5.00%	4,045	5,201	6,531
382	Outfall Sewer Lines	2.52%	3.33%	50,225	61,669	70,253
389	Other Sewer Plant & Equipment	2.52%	6.67%	40,695	64,524	47,460
390	Office Furniture & Equipment	2.52%	6.67%	37,867	48,930	58,516
390.1	Computers and Software	2.52%	20.00%	-	-	-
391	Transportation Equipment	2.52%	20.00%	3,617	7,110	10,505
392	Stores Equipment	2.52%	4.00%	1,529	1,887	2,156
393	Tools, Shop And Garage Equip	2.52%	5.00%	4,827	6,523	8,241
394	Laboratory Equip	2.52%	10.00%	34,422	47,564	60,590
396	Communication Equip	2.52%	10.00%	134,707	167,248	195,163
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-
	Rounding			-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

5,753,584 7,197,090 7,902,675

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Line	No.	Account	Description	Balance Per Company Per 2000 Filing Before Adj.	Land Trmnt Plant	CIAC Plant	CWIP PIS for 2000	Prior Case Adjusted Plant	Land Trmnt Plant	Reclass/ Rounding	Initial Balance
6	353		Land	-				-			-
7	354		Structures & Improvements	-				-			-
8	355		Power Generation	21,372				21,372			21,372
9	360		Collection Sewer Forced	555,955				555,955			555,955
10	361		Collection Sewers Gravity	3,654,748				6,954,989		(1,508,523)	5,446,466
11	362		Special Collecting Structures	-		1,288,086	666,813	-		1,508,523	1,508,523
12	363		Customer Services	-				-			-
13	364		Flow Measuring Devices	11,020				11,020			11,020
14	366		Reuse Services	370,964				370,964			370,964
15	367		Reuse Meters And Installation	-				-			-
16	370		Receiving Wells	-				-			-
17	371		Pumping Equipment	-				-			-
18	374		Reuse Distribution Reservoirs	-				-			-
19	375		Reuse Trans. and Dist. System	-				-			-
20	380		Treatment & Disposal Equipment	-				-			-
21	381		Plant Sewers	-				-			-
22	382		Outfall Sewer Lines	-				-			-
23	389		Other Sewer Plant & Equipment	5,508				5,508			5,508
24	390		Office Furniture & Equipment	29,620				29,620			29,620
25	390.1		Computers and Software	-				-			-
26	391		Transportation Equipment	225				225			225
27	392		Stores Equipment	-				-			-
28	393		Tools, Shop And Garage Equip	-				-			-
29	394		Laboratory Equip	-				-			-
30	396		Communication Equip	-				-			-
31	398		Other Tangible Plant (Goodyear Capacity)	4,460,750				4,460,750			4,460,750
32			Plant Held for Future Use (Land)	1,742,400	(1,742,400)			-		(2)	-
33			Rounding					-			-
34								2			-
35			TOTAL	10,852,562	(1,742,400)	782,105	563,237	12,410,405	-		12,410,403

Litchfield Park Service Company - Wastewater Division
A/D Reconciliation to Prior Rate Case

Exhibit
Rebuttal Schedule B-2
Page 3.15

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	Company Goodyear Capacity	Computed 1996-2000 Depr Adj	Intentionally Left Blank	Intentionally Left Blank	Prior Case Adjusted A/D	Intentionally Left Blank	Initial Balance
1										
2										
3										
4										
5	353	Land	-	-	-	-	-	-	-	-
6	354	Structures & Improvements	-	-	-	-	-	-	-	-
7	355	Power Generation	1,360	-	(1,091)	-	-	269	-	269
8	360	Collection Sewer Forced	35,377	-	(1,674)	-	-	33,704	-	33,704
9	361	Collection Sewers Gravity	232,565	-	483,438	-	-	716,003	-	716,003
10	362	Special Collecting Structures	-	-	-	-	-	-	-	-
11	363	Customer Services	-	-	-	-	-	-	-	-
12	364	Flow Measuring Devices	701	-	(285)	-	-	417	-	417
13	366	Reuse Services	23,606	-	(11,290)	-	-	12,316	-	12,316
14	367	Reuse Meters And Installation	-	-	-	-	-	-	-	-
15	370	Receiving Wells	-	-	-	-	-	-	-	-
16	371	Pumping Equipment	-	-	-	-	-	-	-	-
17	374	Reuse Distribution Reservoirs	-	-	-	-	-	-	-	-
18	375	Reuse Transmission And Distribution System	-	-	-	-	-	-	-	-
19	380	Treatment & Disposal Equipment**	-	-	-	-	-	-	-	-
20	381	Plant Sewers	-	-	-	-	-	-	-	-
21	382	Outfall Sewer Lines	-	-	-	-	-	-	-	-
22	389	Other Sewer Plant & Equipment	350	-	1,219	-	-	1,569	-	1,569
23	390	Office Furniture & Equipment	1,885	-	610	-	-	2,495	-	2,495
24	390.1	Computers and Software	-	-	-	-	-	-	-	-
25	391	Transportation Equipment	14	-	(6)	-	-	9	-	9
26	392	Stores Equipment	-	-	-	-	-	-	-	-
27	393	Tools, Shop And Garage Equip	-	-	-	-	-	-	-	-
28	394	Laboratory Equip	-	-	-	-	-	-	-	-
29	396	Communication Equip	-	-	-	-	-	-	-	-
30	398	Other Tangible Plant	283,854	-	330,393	-	-	614,247	-	614,247
31										
32										
33										
34										
TOTAL			579,713	-	801,315	-	-	1,381,028	-	1,381,028

Litchfield Park Service Company - Wastewater Division
 Test Year Ended September 30, 2008
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2

Exhibit
 Rebuttal Schedule B-2
 Page 4
 Witness: Bourassa

Line No.	Accumulated Depreciation	Per Books Accum. Depr.	A Plant Retirements	B Transfer Of Odor Control Unit to BMSC	C Lift Station Decommission Adjustment	D A/D Capitalized Expenses	E	F Difference to Computed Balance	Rebuttal Adjusted Accum. Depr.
1	Acct. No. Description								
2	351 Organization	-	-	-	-	-	-	-	-
3	353 Land	-	-	-	-	-	-	-	-
4	354 Structures & Improvements	2,073,139	(388,834)	-	(8,003)	47	-	-	1,676,349
5	355 Power Generation	107,028	-	-	-	94	-	-	107,121
6	360 Collection Sewer Forced	(207,785)	-	-	-	0	-	-	(207,785)
7	361 Collection Sewers Gravity	2,868,755	(18,730)	-	-	-	-	-	2,850,025
8	362 Special Collecting Structures	-	-	-	-	-	-	-	-
9	363 Customer Services	-	-	-	-	-	-	-	-
10	364 Flow Measuring Devices	19,320	-	-	-	-	-	-	19,320
11	366 Reuse Services	482,984	-	-	-	-	-	-	482,984
12	367 Reuse Meters and Installation	7,610	-	-	-	-	-	-	7,610
13	370 Receiving Wells	175,322	-	-	-	-	-	-	175,322
14	371 Pumping Equipment	1,064,668	(103,992)	-	-	300	-	-	960,976
15	374 Reuse Distribution Reservoirs	1,959	-	-	-	-	-	-	1,959
16	375 Reuse Trans. and Dist. System	3,884	-	-	-	-	-	-	3,884
17	380 Treatment & Disposal Equip.	1,376,536	-	(11,040)	-	(0)	-	-	1,365,496
18	381 Plant Sewers	6,531	-	-	-	-	-	-	6,531
19	382 Outfall Sewer Lines	70,253	-	-	-	-	-	-	70,253
20	389 Other Sewer Plant & Equip.	90,616	(43,421)	-	-	265	-	-	47,460
21	390 Office Furniture & Equipment	58,516	-	-	-	-	-	-	58,516
22	390.1 Computers and Software	-	-	-	-	-	-	-	-
23	391 Transportation Equipment	10,505	-	-	-	-	-	-	10,505
24	392 Stores Equipment	2,156	-	-	-	-	-	-	2,156
25	393 Tools, Shop And Garage Equip	8,241	-	-	-	-	-	-	8,241
26	394 Laboratory Equip	60,590	-	-	-	-	-	-	60,590
27	396 Communication Equip	195,163	-	-	-	-	-	-	195,163
28	398 Other Tangible Plant	-	-	-	-	-	-	-	-
29	TOTALS	\$ 8,475,991	\$ (554,977)	\$ (11,040)	\$ (8,003)	\$ 705	\$ -	\$ -	\$ 7,902,675
30	Adjusted Accumulated Depreciation per Direct								\$ 8,475,991
31	Increase (decrease) in Plant-in-Service								\$ (573,316)
32	Adjustment to Plant-in-Service								\$ (573,316)

41 SUPPORTING SCHEDULES
 42 Rebuttal B-2, pages 3.4 to 3.15
 43 Rebuttal B-2, page 4.1 to 4.4

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - A

Exhibit
Rebuttal Schedule B-2
Page 4.1
Witness: Bourassa

Line
No.

1	<u>A/D Plant Retirements</u>	
2		
3	354 - Structures and Improvements	\$(388,834)
4	361 - Collection Sewer - Gravity	(18,730)
5	371 - Pumping Equipment	(103,992)
6	389 - Other Plant and Miscellaneous Equipment	<u>(43,421)</u>
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$(554,977)</u>
9		
10		
11		
12		
13		
14	<u>SUPPORTING SCHEDULES</u>	
15	Rebuttal B-2, page 3.1	
16		

Litchfield Park Service Company - Wastewater Division
 Test Year Ended September 30, 2008
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - B

Exhibit
 Rebuttal Schedule B-2
 Page 4.2
 Witness: Bourassa

Line
 No.
 1
 2
 3
 4
 5
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 22

Computation of A/D for transfered Odor Control Unit to Black Mountain Sewer Company ("BMSC")

Cost		<u>\$ 38,250</u> (from B-2, page 3.2)				
Year		Rate	Number of Months	Percent	Half Year	Accumulated Depreciation
2002	*	2.52%	11	91.67%	50%	441.79
2002		5%	1	8.33%	50%	79.69
2003		5%	12	100%	100%	1,912.50
2004		5%	12	100%	100%	1,912.50
2005		5%	12	100%	100%	1,912.50
2006		5%	12	100%	100%	1,912.50
2007		5%	12	100%	100%	1,912.50
2008		5%	6	50%	100%	956.25
Total						<u><u>\$ 11,040.23</u></u>
*The depreciation rate before November 2002 was 2.52% and after was 5%						
Adjustment to Accumulated Depreciation						<u><u>\$ (11,040)</u></u>

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - C

Exhibit
Rebuttal Schedule B-2
Page 4.3
Witness: Bourassa

Line

No.

1	<u>Decommissioning Costs of Lift Station Requirement</u>	
2		
3	354 - Structures and Improvements - Yahweh Contracting LLC (Lift station removal/retirement)	\$ (8,003)
4		
5		
6		
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (8,003)</u>
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20	See testimony	
21		
22		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - D

Exhibit
Rebuttal Schedule B-2
Page 4.4
Witness: Bourassa

Line
No.

A/D on Capitalized Plant

			<u>Depr.</u>	<u>Original</u>	<u>Yr</u>	
	<u>Acct.</u>	<u>Description</u>	<u>Rate</u>	<u>Cost</u>	<u>Factor</u>	<u>Depreciation</u>
5	354	Structures & Improvements	3.33%	\$ 3,725	0.375	\$ 47
6	355	Power Generation	5.00%	5,004	0.375	94
7	371	Pumping Equipment	12.50%	6,394	0.375	300
8	389	Other Sewer Plant & Equip.	6.67%	10,579	0.375	265
11	Increase (Decrease) in Plant-in-Service					<u>\$ 705</u>

SUPPORTING SCHEDULE

Rebuttal B-2, page 3.3

See testimony

	No.	Deferred Income Tax as of September 30, 2008 (Water and Wastewater Divisions)	Deductible TD (Taxable TD) Expected to	Tax Rate	Future Tax Asset Current Non Current	Future Tax Liability Current Non Current
		Adjusted Book Value¹ Book Value² Tax Value³ Probability of Realization of Future Tax Benefit	be Realized			
6		Plant-in-Service \$ 133,359,465				
7		Accum. Deprec. (16,929,695)				
8		CIAIC (18,807,142)				
9		Fixed Assets \$ 97,802,628 \$ 58,956,770	100.0% \$ (38,845,858)	38.6%	\$ 11,320,042	\$ (14,994,501)
10		AJAC \$ -	100.0% \$ 29,326,533	38.6%	\$ 2,891,278	
11		AJAC \$ (29,326,533)	100.0% \$ 7,490,359	38.6%	\$ 14,211,320	\$ (14,994,501)
12		Tax Benefits from bonus depr.				
13					\$ -	\$ -
14					\$ (783,181)	\$ -
15		Wastewater Division allocation factor			0.42777	
16					\$ (335,020)	
17		Allocated DIT Asset (Liability)			\$ (15,987)	
18					\$ 319,033	
19		DIT Asset (Liability) per Direct				
20						
21		Adjustment to DIT				
22						
23						
24		¹ Adjusted Water and Wastewater - per Rebuttal B-2, page 2 (Water Division) and Rebuttal B-2, page 2 (Wastewater Division)				
25		² Based on wastewater division rate base relative to total of both water and wastewater division rate base				
26		³ Adjusted for post-test year plant (water and wastewater)				
27		⁴ Computation of Net Tax Value at September 30, 2008 (water and wastewater)				
28		Based on 2008 Tax Depreciation report (December 31, 2008)				
29						
30		Unadjusted Cost per 2008 Tax Depr Report	\$ 71,524,622			
31		Less: Plant added after September 2008	(4,062,897)	\$ 67,461,925		
32		Net Unadjusted Cost		(2,849,349)		
33		Basic Reduction 2007 and Prior (from 2007 Tax Depr Report)				
34						
35		Bonus Depreciation Computation Jan. to Sept. 2008				
36		Bonus Depr. for 12 months for 2008 per Tax Depr. Report	\$ 14,407,232			
37		Less: 2008 Bonus Depr for plant added after September 2008	(2,031,350)			
38		Net 12 months of Bonus Depr for plant added after Sept. 2008	\$ 12,375,882			
39		Factor (9 months of 2008 or 9/12)	0.75	(9,281,912)		
40		Bonus Depreciation for 9 months of 2008				
41						
42		2008 Depreciation Computation Jan. to Sept. 2008				
43		2008 Tax Depreciation (12 Months) per Tax Depr Report	\$ 1,817,974			
44		Less: 2008 depp. for plant added after September 2008	(47,726)			
45		Net 12 months of depr. for plant added Jan. to Sept. 2008	\$ 1,770,248			
46		Factor (9 months of 2008 or 9/12)	0.75	(1,327,686)		
47		Tax Depreciation for 9 months of 2008				
48						
49		Land				
50		Post Test Year Plant (added in 2009)				
51						
52		Net tax value of plant-in-service at September 30, 2008				
53						
54						
55		¹ Tax Benefits from bonus depreciation				
56						
57		Net income before tax \$ 930,677 (from E-2 for both Water and Wastewater)				
58		Add: Book Depreciation 2,553,666 (from E-2 for both Water and Wastewater)				
59						
60						
61		Less: Tax Depreciation				
62		Oct-Dec. 2007				
63		Jan - Sept. 2008				
64		Taxable income (loss)				
65						

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 4

Exhibit
Rebuttal Schedule B-2
Page 6
Witness: Bourassa

Line
No.

1	<u>AIAC and CIAC Related to Plant Retirements</u>	
2		
3	Advances-in-Aid of Construction	\$(16,649)
4		
5	Contributions-in-Aid of Construction	\$(93,346)
6		
7		
8		
9		
10		
11		
12		
13		
14		
15	See Staff Adjustment 1 Schedule JMM-VVV5	

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Computation of Working Capital

Exhibit
Rebuttal Schedule B-5
Page 1
Witness: Bourassa

Line

No.

1	Cash Working Capital (1/8 of Allowance		
2	Operation and Maintenance Expense)	\$	711,419
3	Pumping Power (1/24 of Pumping Power)		11,148
4	Purchased Water (1/24 of Purchased Water)		50
5	Prepays		72,782
6	Materials & Supplies		-
7			
8			
9	Total Working Capital Allowance	\$	<u>795,399</u>
10			
11			
12	Working Capital Requested	\$	<u>-</u>
13			
14			
15	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>	
16	Rebuttal C-1	Rebuttal B-1	
17			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Schedule C-1
Page 1
Witness: Bourassa

Line No.		Test Year Adjusted Results	Adjustment	Rebuttal Test Year Adjusted Results	Proposed Rate Increase	Rebuttal Adjusted with Rate Increase
1	Revenues					
2	Flat Rate Revenues	\$ 6,164,589	\$ -	\$ 6,164,589	\$ 4,776,618	\$ 10,941,207
3	Measured Revenues	92,030	-	92,030	-	92,030
4	Other Wastewater Revenues	99,755	-	99,755	-	99,755
5		<u>\$ 6,356,374</u>	<u>\$ -</u>	<u>\$ 6,356,374</u>	<u>\$ 4,776,618</u>	<u>\$ 11,132,993</u>
6	Operating Expenses					
7	Salaries and Wages	\$ -	-	\$ -	-	\$ -
8	Purchased Water and WW Treatment	1,205	-	1,205	-	1,205
9	Sludge Removal Expense	267,554	-	267,554	-	267,554
10	Purchased Power	632,064	-	632,064	-	632,064
11	Fuel for Power Production	2,076	-	2,076	-	2,076
12	Chemicals	279,749	-	279,749	-	279,749
13	Materials and Supplies	75,579	-	75,579	-	75,579
14	Contractual Services	3,117	-	3,117	-	3,117
15	Contractual Services- Testing	33,348	-	33,348	-	33,348
16	Contractual Services - Other	2,716,001	72,805	2,788,806	-	2,788,806
17	Contractual Services - Legal	24,084	-	24,084	-	24,084
18	Equipment Rental	78,309	-	78,309	-	78,309
19	Rents - Building	18,976	-	18,976	-	18,976
20	Transportation Expenses	69,551	-	69,551	-	69,551
21	Insurance - General Liability	32,133	-	32,133	-	32,133
22	Insurance - Vehicle	2,213	-	2,213	-	2,213
23	Regulatory Commission Expense	19,133	(1,136)	17,997	-	17,997
24	Reg. Comm. Exp. - Rate Case	70,000	-	70,000	-	70,000
25	Miscellaneous Expense	36,656	(494)	36,162	-	36,162
26	Bad Debt Expense	43,889	(21,791)	22,098	-	22,098
27	Depreciation and Amortization	1,550,237	(27,149)	1,523,088	-	1,523,088
28	Taxes Other Than Income	-	-	-	-	-
29	Property Taxes	336,629	(2,865)	333,764	-	333,764
30	Income Tax	(99,906)	(6,532)	(106,438)	1,843,721	1,737,283
31						
32	Total Operating Expenses	<u>\$ 6,192,596</u>	<u>\$ 12,838</u>	<u>\$ 6,205,434</u>	<u>\$ 1,843,721</u>	<u>\$ 8,049,155</u>
33	Operating Income	<u>\$ 163,778</u>	<u>\$ (12,838)</u>	<u>\$ 150,940</u>	<u>\$ 2,932,897</u>	<u>\$ 3,083,837</u>
34	Other Income (Expense)					
35	Interest Income	-	-	-	-	-
36	Other income	-	-	-	-	-
37	Interest Expense	(322,703)	2,446	(320,256)	-	(320,256)
38	Other Expense	-	-	-	-	-
39						
40	Total Other Income (Expense)	<u>\$ (322,703)</u>	<u>\$ 2,446</u>	<u>\$ (320,256)</u>	<u>\$ -</u>	<u>\$ (320,256)</u>
41	Net Profit (Loss)	<u><u>\$ (158,925)</u></u>	<u><u>\$ (10,391)</u></u>	<u><u>\$ (169,316)</u></u>	<u><u>\$ 2,932,897</u></u>	<u><u>\$ 2,763,581</u></u>

SUPPORTING SCHEDULES:
Rebuttal C-1, page 2

RECAP SCHEDULES:
Rebuttal A-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rebuttal Schedule C-1
Page 2.1
Witness: Bourassa

Continued on
Page 2.2

Line No.	Test Year Adjusted Results	1 Depreciation Expense	2 Property Tax	3 Contractual Services Aerotek	4 Meals & Entertainment	5 Bad Debt Expense	6 Capitalized and Decomm. Expenses	7 Remove Rate Case Expense
1	Revenues							
2	Flat Rate Revenues	\$ 6,164,589						
3	Measured Revenues	92,030						
4	Other Wastewater Revenues	99,755						
5		\$ 6,356,374	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Operating Expenses							
7	Salaries and Wages	\$ -						
8	Purchased WW Treatment	1,205						
9	Sludge Removal Expense	267,554						
10	Purchased Power	632,064						
11	Fuel for Power Production	2,076						
12	Chemicals	279,749						
13	Materials and Supplies	75,579						
14	Contractual Services	3,117						
15	Contractual Services- Testing	33,348						
16	Contractual Services - Other	2,716,001		(42,200)			(33,705)	
17	Contractual Services - Legal	24,084						
18	Equipment Rental	78,309						
19	Rents - Building	18,976						
20	Transportation Expenses	69,551						
21	Insurance - General Liability	32,133						
22	Insurance - Vehicle	2,213						
23	Regulatory Commission Expense	19,133						
24	Reg Comm. Exp. - Rate Case	70,000			(494)			(1,136)
25	Miscellaneous Expense	36,656						
26	Bad Debt Expense	43,889				(21,791)		
27	Depreciation and Amortization	1,550,237	(27,149)					
28	Taxes Other Than Income	-						
29	Property Taxes	336,629	(2,865)					
30	Income Tax	(99,906)						
31		\$ -						
32	Total Operating Expenses	\$ 6,192,596	\$ (27,149)	\$ (42,200)	\$ (494)	\$ (21,791)	\$ (33,705)	\$ (1,136)
33	Operating Income	\$ 163,778	\$ 27,149	\$ 42,200	\$ 494	\$ 21,791	\$ 33,705	\$ 1,136
34	Other Income (Expense)							
35	Interest Income	-						
36	Other Income	-						
37	Interest Expense	(322,703)						
38	Other Expense	-						
39								
40	Total Other Income (Expense)	\$ (322,703)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41	Net Profit (Loss)	\$ (158,925)	\$ 27,149	\$ 42,200	\$ 494	\$ 21,791	\$ 33,705	\$ 1,136

SUPPORTING SCHEDULES:
Rebuttal C-2

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rebuttal Schedule C-1
Page 2.2
Witness: Bourassa

Continued from
Page 2.1

Line No.	Revenues	8 Remove Unnecessary Expense	9 Central Allocation	10 Interest Synchronization	11 Income Tax	12 Intentionally Left Blank	Rebuttal Test Year Adjusted Results	Proposed Rate Increase	Rebuttal Adjusted with Rate Increase
1									
2	Flat Rate Revenues						\$ 6,164,589	\$ 4,776,618	\$ 10,941,207
3	Measured Revenues						92,030		92,030
4	Other Wastewater Revenues						99,755		99,755
5							\$ 6,356,374	\$ 4,776,618	\$ 11,132,993
6	Operating Expenses								
7	Salaries and Wages								
8	Purchased WW Treatment						1,205		1,205
9	Sludge Removal Expense						267,554		267,554
10	Purchased Power						632,064		632,064
11	Fuel for Power Production						2,076		2,076
12	Chemicals						279,749		279,749
13	Materials and Supplies						75,579		75,579
14	Contractual Services						3,117		3,117
15	Contractual Services- Testing						33,348		33,348
16	Contractual Services - Other						2,788,806		2,788,806
17	Contractual Services - Legal						24,084		24,084
18	Equipment Rental						78,309		78,309
19	Rents - Building						18,976		18,976
20	Transportation Expenses						69,551		69,551
21	Insurance - General Liability						32,133		32,133
22	Insurance - Vehicle						2,213		2,213
23	Regulatory Commission Expense						17,997		17,997
24	Reg. Comm. Exp. - Rate Case						70,000		70,000
25	Miscellaneous Expense						36,162		36,162
26	Bad Debt Expense						22,098		22,098
27	Depreciation and Amortization						1,523,088		1,523,088
28	Taxes Other Than Income								
29	Property Taxes						333,764		333,764
30	Income Tax				(6,532)		(106,438)	1,843,721	1,737,283
31									
32	Total Operating Expenses						\$ 6,205,434	\$ 1,843,721	\$ 8,049,155
33	Operating Income						\$ 150,940	\$ 2,932,897	\$ 3,083,837
34	Other Income (Expense)								
35	Interest Income								
36	Other Income								
37	Interest Expense								
38	Other Expense								
39									
40	Total Other Income (Expense)								
41	Net Profit (Loss)								
42									
43									
44									

RECAP SCHEDULES:
Rebuttal C-1, page 1

SUPPORTING SCHEDULES:
Rebuttal C-2

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses

Exhibit
Schedule C-2
Page 1
Witness: Bourassa

Line No.	1	2	3	4	5	6	Subtotal
	Depreciation Expense	Property Taxes	Contractual Serv. Aerotek	Meals & Entertainment	Bad Debt Expense	Capitalized Expenses	
1	(27,149)	(2,865)	(42,200)	(494)	(21,791)	(33,705)	(128,204)
2							
3	Revenues						
4							
5	Expenses						
6							
7	Operating Income	2,865	42,200	494	21,791	33,705	128,204
8							
9							
10	Interest Expense						
11							
12	Other Income /						
13	Expense						
14							
15	Net Income	2,865	42,200	494	21,791	33,705	128,204
16							
17							
18							
19							
20							
21	Remove Rate Case Exp.	Unnecessary Exp.	Central Office Costs	Interest Synchronization	Income Tax	Blank	Subtotal
22	(1,136)	(3,128)	151,838	(6,532)			12,838
23							
24	Revenues						
25	Expenses						
26	Operating Income	3,128	(151,838)	-	6,532	-	(12,838)
27							
28	Interest Expense						
29							
30	Other Income /						
31	Expense						
32							
33							
34	Net Income	3,128	(151,838)	2,446	6,532	-	(10,391)
35							
36							
37							
38							
39							
40							
41	Revenues						
42	Expenses						
43							
44	Operating Income	-	-	-	-	-	(12,838)
45							
46	Interest Expense						
47							
48	Other Income /						
49	Expense						
50							
51	Net Income	-	-	-	-	-	(10,391)
52							
53							
54							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses
Adjustment Number 1

Exhibit
Schedule C-2
Page 2
Witness: Bourassa

Line No.	Acct.	Description	Adjusted Original Cost	Proposed Rates	Depreciation Expense
1		<u>Depreciation Expense</u>			
2					
3					
4	No.	Description	Cost	Rates	Expense
5	351	Organization	-	0.00%	-
6	353	Land	1,783,426	0.00%	-
7	354	Structures & Improvements	18,941,384	3.33%	630,748
8	355	Power Generation	548,674	5.00%	27,434
9	360	Collection Sewer Forced	1,161,105	2.00%	23,222
10	361	Collection Sewers Gravity	23,094,661	2.00%	461,893
11	362	Special Collecting Structures	-	2.00%	-
12	363	Customer Services	-	2.00%	-
13	364	Flow Measuring Devices	47,019	10.00%	4,702
14	366	Reuse Services	3,789,468	2.00%	75,789
15	367	Reuse Meters and Installation	52,331	8.33%	4,359
16	370	Receiving Wells	860,393	3.33%	28,651
17	371	Pumping Equipment	1,760,813	12.50%	220,102
18	374	Reuse Distribution Reservoirs	62,825	2.50%	1,571
19	375	Reuse Trans. and Dist. System	414,315	2.50%	10,358
20	380	Treatment & Disposal Equip.	5,431,228	5.00%	271,561
21	381	Plant Sewers	47,788	5.00%	2,389
22	382	Outfall Sewer Lines	343,681	3.33%	11,445
23	389	Other Sewer Plant & Equip.	611,767	6.67%	40,805
24	390	Office Furniture & Equipment	198,772	6.67%	13,258
25	390.1	Computers and Software	-	20.00%	-
26	391	Transportation Equipment	26,078	20.00%	5,216
27	392	Stores Equipment	8,968	4.00%	359
28	393	Tools, Shop And Garage Equip	56,167	5.00%	2,808
29	394	Laboratory Equip	173,948	10.00%	17,395
30	396	Communication Equip	418,996	10.00%	41,900
31	398	Other Tangible Plant	-	10.00%	-
32		TOTALS	\$ 59,833,807		\$ 1,895,964
33					
34		Less: Amortization of Contributions			
35	361	Collection Sewers Gravity	\$ 18,643,786	2.00%	\$ (372,876)
36					
37		Total Depreciation Expense			\$ 1,523,088
38					
39		Test Year Depreciation Expense			1,550,237
40					
41		Increase (decrease) in Depreciation Expense			(27,149)
42					
43		Adjustment to Revenues and/or Expenses			\$ (27,149)
44					
45		<u>SUPPORTING SCHEDULE</u>			
46		B-2, page 3			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 2

Exhibit
Rebuttal Schedule C-2
Page 3
Witness: Bourassa

Line
No.

1	<u>Adjust Property Taxes to Reflect Proposed Revenues:</u>	
2		
3	Adjusted Revenues in year ended 09/30/2008	\$ 6,356,374
4	Adjusted Revenues in year ended 09/30/2008	6,356,374
5	Proposed Revenues	<u>11,132,993</u>
6	Average of three year's of revenue	\$ 7,948,580
7	Average of three year's of revenue, times 2	\$ 15,897,161
8	Add:	
9	Construction Work in Progress at 10%	\$ 39,301
10	Deduct:	
11	Book Value of Transportation Equipment	<u>15,573</u>
12		
13	Full Cash Value	\$ 15,881,588
14	Assessment Ratio	<u>21%</u>
15	Assessed Value	3,335,133
16	Property Tax Rate	9.5187%
17		
18	Property Tax	317,463
19	Plus: Tax on Parcels	16,302
20		
21	Total Property Tax at Proposed Rates	\$ <u>333,764</u>
22	Property Taxes recorded during the test year	<u>336,629</u>
23	Change in property taxes	<u>\$ (2,865)</u>
24		
25		
26	Adjustment to Revenues and/or Expenses	<u>\$ (2,865)</u>
27		
28		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 3

Exhibit
Rebuttal Schedule C-2
Page 4
Witness: Bourassa

Line
No.

1	<u>Contractual Services - Aerotek</u>	
2		
3	Remove Contractual Services related to Black Mountain Sewer Company	\$ (42,200)
4		
5		
6		
7	Increase(decrease) in Contractual Services	<u>\$ (42,200)</u>
8		
9		
10		
11	Adjustment to Revenue and/or Expense	<u>\$ (42,200)</u>
12		
13		
14		
15		
16		
17	See Testimony	
18		
19		
20		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 4

Exhibit
Rebuttal Schedule C-2
Page 5
Witness: Bourassa

Line

No.

1 Miscellaneous Expense

2

3

4

Beverages expenses included in Miscellaneous expense

\$ (494)

5

6

7

8

Increase(decrease) in Miscellaneous Expense

\$ (494)

9

10

11

Adjustment to Revenue and/or Expense

\$ (494)

12

13

SUPPORTING SCHEDULES

14

Staff Schedule JMM-VW16 Adjustment #4

15

16

17

18

19

20

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 5

Exhibit
Rebuttal Schedule C-2
Page 6
Witness: Bourassa

Line

No.

1 Bad Debt Expense

2

3

4 Normalized Bad Debt Expense

\$ 22,098

5

6 Bad Debt Expense per Direct

43,889

7

8

9 Increase(decrease) in Bad Debt Expense

\$ (21,791)

10

11

12 Adjustment to Revenue and/or Expense

\$ (21,791)

13

14

15 SUPPORTING SCHEDULES

16 Staff Schedule JMM-W17 Adjustment #5

17

18

19

20

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 6

Exhibit
Rebuttal Schedule C-2
Page 7
Witness: Bourassa

Line

No.

Capitalized Expenses and Decommissioning Costs

1		
2		
3		
4		
5	354 - Structures and Improvements - Dean Fence and Gate (fence)	\$ (3,725)
6	355 - Power Generation Equipment - Loftin Equipment Co. (generator duct)	(5,004)
7	371 - Pumping Equipment - Precision Electric (install rebuilt pump)	(1,530)
8	371 - Pumping Equipment - Precision Electric (new reinforced strainer baskets)	(4,864)
9	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor site plant and pole mnt)	(1,450)
10	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor legal descr. & map)	(550)
11	389 - Other Plant and Misc. Equip. - Keogh Engineering (filter system repair)	(8,054)
12	389 - Other Plant and Misc. Equip. - Keogh Engineering (work on UV system)	(525)
13	354 - Structures and Improvements - Yahweh Contracting LLC (Lift station removal/retirement)	(8,003)
14	Total Capitalized Expenses	<u>\$ (33,705)</u>
15		
16	Increase(decrease) in Contractual Services - Other	<u>\$ (33,705)</u>
17		
18		
19	Adjustment to Revenue and/or Expense	<u>\$ (33,705)</u>

20

21

SUPPORTING SCHEDULE

23 Rebuttal B-2, page 3.3

24 Rebuttal B-2, page 4.3

25

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 7

Exhibit
Rebuttal Schedule C-2
Page 8
Witness: Bourassa

Line
No.

1 Remove Expenses Included in Rate Case Expense

2

3 Bourassa, CPA Inv. # 1000002402

\$ (155)

4 Bourassa, CPA Inv. # 1000002413

(981)

5

(1,136)

6

7

8 Increase(decrease) in Regulatory Commission Expense

\$ (1,136)

9

10

11 Adjustment to Revenue and/or Expense

\$ (1,136)

12

13

14

15

16

17

18

19

20

21

22

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 8

Exhibit
Rebuttal Schedule C-2
Page 9
Witness: Bourassa

Line
No.

1			
2	<u>Remove Unncessary Expense</u>		
3			
4	Meals and Entertainment	Exp cost for the DBack game	\$ (6,400)
5	Meals and Entertainment	BALANCE DUE FOR 2008 XMAS PART	(953)
6	Meals and Entertainment	DJ SERVICE - XMAS PARTY	(495)
7	Meals and Entertainment	For Holiday Party Dec. 2008	(4,959)
8	Meals and Entertainment	Catered Lunch	<u>(412)</u>
9	Total		\$ <u>(13,219)</u>
10			
11	Wastewater Divison 4-factor allocation %		23.66%
12			
13	Increase (decrease) in Contractual Services - Other		\$ <u>(3,128)</u>
14			
15			
16	Adjustment to Revenue and/or Expense		\$ <u>(3,128)</u>
17			
18			
19			
20			

Exhibit
Rebuttal Schedule C-2
Page 10
Witness: Bourassa

**Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 9**

Rejoinder
LPSCo
Allocation[illegible]Infrastructure Cost Allocation per Direct (USD)²

Increase (decrease) in Infrastructure Allocated Costs (USD)

Adjustment to Revenues and/or Expenses

¹ Per Response to JMM 5.5
² Per Response to JMM 1.67

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 10

Exhibit
Rebuttal Schedule C-2
Page 11
Witness: Bourassa

Line
No.

1 Interest Synchronization

2

3

4 Fair Value Rate Base \$ 28,034,885

5 Weighted Cost of Debt 1.14%

6 Interest Expense \$ 320,256

7

8 Test Year Interest Expense \$ 322,703

9

10 Increase (decrease) in Interest Expense (2,446)

11

12

13

14 Adjustment to Revenue and/or Expense \$ 2,446

15

16

17 Weighted Cost of Debt Computation

18

19

	<u>Amount</u>	<u>Percent</u>	<u>Cost</u>	<u>Weighted Cost</u>
20 Debt	\$ 11,506,844	17.86%	6.39%	1.14%
21 Equity	\$ 52,906,962	82.14%	12.00%	9.86%
22 Total	\$ 64,413,805	100.00%		11.00%

23

24

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 11

Exhibit
Rebuttal Schedule C-2
Page 12
Witness: Bourassa

Line No.		Test Year Adjusted Results	Adjusted with Rate Increase
1	<u>Income Tax Computation</u>		
2			
3			
4			
5			
6			
7	Taxable Income before adjustments	\$ (275,754)	\$ 4,500,864
8	Adjustments to Taxable Income	-	-
9	Taxable Income	<u>\$ (275,754)</u>	<u>\$ 4,500,864</u>
10			
11			
12			
13	Income Before Taxes	<u>\$ (275,754)</u>	<u>\$ 4,500,864</u>
14			
15	Arizona Income Before Taxes		\$ 4,500,864
16			
17	Less Arizona Income Tax		<u>\$ 313,620</u>
18	Rate = 6.97%		
19	Arizona Taxable Income		\$ 4,187,244
20			
21	Arizona Income Taxes		\$ 313,620
22			
23	Federal Income Before Taxes		\$ 4,500,864
24			
25	Less Arizona Income Taxes		<u>\$ 313,620</u>
26			
27	Federal Taxable Income		<u>\$ 4,187,244</u>
28			
29			
30			
31	FEDERAL INCOME TAXES:		
32	15% BRACKET		\$ 7,500
33	25% BRACKET		\$ 6,250
34	34% BRACKET		\$ 8,500
35	39% BRACKET		\$ 91,650
36	34% BRACKET		\$ 1,309,763
37			
38	Federal Income Taxes		<u>\$ 1,423,663</u> 31.63%
39			
40			
41	Total Income Tax		<u>\$ 1,737,283</u>
42			
43	Overall Tax Rate		<u>38.60%</u>
44			
45	Income Tax at Proposed Rates Effective Rate →	<u>\$ (106,438)</u>	
46			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Computation of Gross Revenue Conversion Factor

Exhibit
Rebuttal Schedule C-3
Page 1
Witness: Bourassa

Line		Percentage of Incremental Gross Revenues
<u>No.</u>	<u>Description</u>	
1	Federal Income Taxes	31.63%
2		
3	State Income Taxes	6.97%
4		
5	Other Taxes and Expenses	0.00%
6		
7		
8	Total Tax Percentage	38.60%
9		
10	Operating Income % = 100% - Tax Percentage	61.40%
11		
12		
13		
14		
15	<u>1</u> = Gross Revenue Conversion Factor	
16	Operating Income %	1.6286
17		
18	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>
19		Rebuttal A-1
20		

Litchfield Park Service Company - Wastewater Division
Revenue Summary
 With Annualized Revenues to Year End Number of Customers
 Test Year Ended September 30, 2008

Exhibit
 Rebuttal Schedule H-1
 Page 1
 Witness: Bourassa

Line No.	Customer Classification	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Sewer Revenues	Percent of Proposed Sewer Revenues
1	Residential	\$ 4,647,120	\$ 8,236,679	\$ 3,589,559	77.24%	73.99%	74.47%
2	Residential HOA 135	44,064	78,100	34,036	77.24%	0.70%	0.71%
3	Residential HOA 160	52,224	92,563	40,339	77.24%	0.83%	0.84%
4	Residential HOA 520	169,728	300,830	131,102	77.24%	2.70%	2.72%
5	Subtotal	\$ 4,913,136	\$ 8,708,172	\$ 3,795,036	77.24%	78.23%	78.73%
6							
7	Multi-Unit Housing						
8	Multi-Unit 3	9,923	17,591	7,667	77.27%	0.16%	0.16%
9	Multi-Unit 5	3,156	5,595	2,439	77.27%	0.05%	0.05%
10	Multi-Unit 6	1,818	3,223	1,405	77.27%	0.03%	0.03%
11	Multi-Unit 7	8,484	15,039	6,555	77.27%	0.14%	0.14%
12	Multi-Unit 8	73,124	129,625	56,501	77.27%	1.16%	1.17%
13	Multi-Unit 9	2,727	4,834	2,107	77.27%	0.04%	0.04%
14	Multi-Unit 14	46,662	82,716	36,054	77.27%	0.74%	0.75%
15	Multi-Unit 16	116,352	206,254	89,902	77.27%	1.85%	1.86%
16	Multi-Unit 17	5,151	9,131	3,980	77.27%	0.08%	0.08%
17	Multi-Unit 18	5,454	9,668	4,214	77.27%	0.09%	0.09%
18	Multi-Unit 24	7,272	12,891	5,619	77.27%	0.12%	0.12%
19	Multi-Unit 46	13,938	24,708	10,770	77.27%	0.22%	0.22%
20	Multi-Unit 84	25,452	45,118	19,666	77.27%	0.41%	0.41%
21	Multi-Unit 90	27,270	48,341	21,071	77.27%	0.43%	0.44%
22	Multi-Unit 132	79,992	141,800	61,808	77.27%	1.27%	1.28%
23	Multi-Unit 304	92,112	163,284	71,172	77.27%	1.47%	1.48%
24							
25	Subtotal	\$ 518,888	\$ 919,818	\$ 400,931	77.27%	8.26%	8.32%
26							
27	Small Commercial	\$ 84,318	\$ 149,463	65,145	77.26%	1.34%	1.35%
28	Measured Service:						
29	Regular Domestic	\$ 256,547	\$ 454,904	198,357	77.32%	4.08%	4.11%
30	Restaurant, Motels, Grocery, Dry Cleaning	222,936	395,322	172,386	77.33%	3.55%	3.57%
31	Subtotal	\$ 479,482	\$ 850,226	\$ 370,744	77.32%	7.63%	7.69%
32							
33	Wigwam Resort - Per Room	\$ 103,929	\$ 184,232	\$ 80,303	77.27%	1.65%	1.67%
34	Wigwam Resort - Main	12,000	21,270	9,270	77.25%	0.19%	0.19%
35	Subtotal	\$ 115,929	\$ 205,502	\$ 89,573	77.27%	1.85%	1.86%
36							
37	Elementary Schools	\$ 32,640	\$ 57,854	\$ 25,214	77.25%	0.52%	0.52%
38	Middle and High Schools	28,800	51,048	22,248	77.25%	0.46%	0.46%
39	Community College	14,880	26,375	11,495	77.25%	0.24%	0.24%
40	Subtotal	\$ 76,320	\$ 135,277	\$ 58,957	77.25%	1.22%	1.22%
41							
42	Effluent Sales	92,268	92,268	-	0.00%	1.47%	0.83%
43	Total Revenues Before Revenues Annualization	\$ 6,280,340	\$ 11,060,726	\$ 4,780,386	76.12%	197.19%	197.81%

Litchfield Park Service Company - Wastewater Division
Revenue Summary
 With Annualized Revenues to Year End Number of Customers
 Test Year Ended September 30, 2008

Exhibit
 Rebuttal Schedule H-1
 Page 2
 Witness: Bourassa

Line No.	Customer Classification	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Sewer Revenues	Percent of Proposed Sewer Revenues
1							
2	<u>Revenue Annualization</u>						
3	Residential	(36,394)	(64,505)	(28,111)	77.24%	-0.58%	-0.58%
4	Multi-Unit Housing - Mult-Unit 8	2,020	3,581	1,561	77.27%	0.03%	0.03%
5	Small Commercial	138	245	107	77.26%	0.00%	0.00%
6	Measured Service:						
7	Regular Domestic	21,275	37,725	16,449	77.32%	0.34%	0.34%
8	Restaurant, Motels, Grocery, Dry Cleaning	11,357	20,139	8,782	77.33%	0.18%	0.18%
9	Effluent Sales	(25,908)	(25,908)	-	0.00%	-0.41%	-0.23%
10	Subtotal Revenue Annualization	(27,512)	(28,724)	(1,213)	4.41%	-0.44%	-0.26%
11							
12	<u>Misc Service Revenues</u>						
13	Misc Revenues	99,755	99,755	-	0.00%	1.59%	0.90%
14	Reconciling Amount to C-1	3,791	1,236	(2,555)	-67.40%	0.06%	0.01%
15	Totals	6,356,375	11,132,992	4,776,618	75.15%	197.25%	197.83%
16							
17	Revenue Reconciliation						
18	Recorded Revenues		\$ 99,755				
19	Amount per Bill Count Before Rev. Annualization		6,380,095				
20	Difference		\$ (6,280,340)				
21	Tolerance (+/- 1/2 percent)		\$ 499				
22	Acceptable		No				
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Analysis of Revenue by Detailed Class
Special Rate Commercial Customers Pay Standard Commerical Rate

Rebuttal Schedule H-2
Page 1
Witness: Bourassa

Line No.	Customer Classification	Average Number of Customers at 9/30/2008	Average Water Use	Average Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	Residential	14,126	N/A	\$ 27.20	\$ 48.21	\$ 21.01	77.243%
2	Residential HOA 135	1	N/A	3,672.00	6,508.35	2,836.35	77.243%
3	Residential HOA 160	1	N/A	4,352.00	7,713.60	3,361.60	77.243%
4	Residential HOA 520	1	N/A	14,144.00	25,069.20	10,925.20	77.243%
5							
6	Multi-Unit Housing						
7	Multi-Unit 3	11	N/A	75.75	134.28	58.53	77.267%
8	Multi-Unit 5	2	N/A	126.25	223.80	97.55	77.267%
9	Multi-Unit 6	1	N/A	151.50	268.56	117.06	77.267%
10	Multi-Unit 7	4	N/A	176.75	313.32	136.57	77.267%
11	Multi-Unit 8	30	N/A	202.00	358.08	156.08	77.267%
12	Multi-Unit 9	1	N/A	227.25	402.84	175.59	77.267%
13	Multi-Unit 14	11	N/A	353.50	626.64	273.14	77.267%
14	Multi-Unit 16	24	N/A	404.00	716.16	312.16	77.267%
15	Multi-Unit 17	1	N/A	429.25	760.92	331.67	77.267%
16	Multi-Unit 18	1	N/A	454.50	805.68	351.18	77.267%
17	Multi-Unit 24	1	N/A	606.00	1,074.24	468.24	77.267%
18	Multi-Unit 46	1	N/A	1,161.50	2,058.96	897.46	77.267%
19	Multi-Unit 84	1	N/A	2,121.00	3,759.84	1,638.84	77.267%
20	Multi-Unit 90	1	N/A	2,272.50	4,028.40	1,755.90	77.267%
21	Multi-Unit 132	2	N/A	3,333.00	5,908.32	2,575.32	77.267%
22	Multi-Unit 304	1	N/A	7,676.00	13,607.04	5,931.04	77.267%
23							
24	Small Commercial	153	N/A	46.00	81.54	35.54	77.261%
25	Measured Service:						
26	Regular Domestic	138	57,450	155.01	274.87	119.85	77.318%
27	Restaurant, Motels, Grocery, Dry Cleaning	62	91,567	300.45	532.78	232.33	77.326%
28							
29	Wigwam Resort - Per Room	1	N/A	8,660.75	15,352.68	6,691.93	77.267%
30	Wigwam Resort - Main	1	N/A	1,000.00	1,772.50	772.50	77.250%
31							
32	Elementary Schools	4	N/A	680	1,205	525.30	77.250%
33	Middle and High Schools	3	N/A	800	1,418	618.00	77.250%
34	Community College	1	N/A	1,240	2,198	957.90	77.250%
35							
36	Effluent Sales (\$55 per acre foot)	4	5,939,470	1,003	1,003	-	0.000%
37	Effluent Sales (\$100 per acre foot)	0	2,856,100	877	877	-	0.000%
38	Effluent Sales (\$225 per acre foot)	1	3,383,491	2,336	2,336	-	0.000%
39	Total	<u>14,589</u>					
40							
41							

Litchfield Park Service Company - Wastewater Division
Present and Proposed Rates
Test Year Ended September 30, 2008

Exhibit
Rebuttal Schedule H-3
Page 1
Witness: Bourassa

Line

No.

	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Percent Change</u>
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
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35			

Customer Classification

Monthly Charge for:

Monthly Residential Service

Multi-Unit Housing - Monthly per Unit

Commercial:

Small Commercial - Monthly Service

Measured Service:

Regular Domestic:

Monthly Service Charge

Rate Per 1,000 Gallons of Water

Restaurant, Motels, Grocery Stores & Dry Cleaning Estab.¹

Monthly Service Charge

Rate Per 1,000 Gallons of Water

Wigwam Resort:

Monthly Rate - Per Unit

Main Building - Per Month

Schools - Monthly Service Rates:

Elementary Schools

Middle Schools

High Schools

Community College

Effluent²

¹ Motels without restuarants charged multi-unit monthly rate.

² Market Rate - Maximum effluent rate shall not exceed \$430 per acre foot based on a potable water rate of \$1.32 per thousand gallons.

Litchfield Park Service Company - Wastewater Division
Changes in Representative Rate Schedules
Test Year Ended September 30, 2008

Exhibit
 Rebuttal Schedule H-3
 Page 2
 Witness: Bourassa

Line No.	Other Service Charges	Present Rates	Proposed Rates
1	Establishment (Regular Hours) per Rule R14-2-603D (a)	\$ 20.00	\$ 20.00
2	Establishment (After Hours) per Rule R14-2-603D (a)	\$ 40.00	\$ 40.00
3	Re-Establishment of Service per Rule R14-2-603D (a)	(b)	(b)
4	Reconnection (Regular Hours) per Rule R14-2-603D (a)	\$ 50.00	\$ 50.00
5	Reconnection (After Hours) per Rule R14-2-603D (a)	\$ 65.00	\$ 65.00
6	NSF Check, per Rule R14-2-608E (a)	\$ 20.00	\$ 20.00
7	Deferred Payment, Per Month	1.50%	1.50%
8	Late Charge	(c)	(c)
9	Service Calls - Per Hour/After Hours(d)	\$ 40.00	\$ 40.00
10	Deposit Requirement	(e)	(e)
11	Deposit Interest	3.50%	3.50%
12	Service Lateral Connection Charge- All Sizes	(f)	(f)
13	Main Extension Tariff, per Rule R14-2-606B	(g)	(g)
14			
15			
16			
17	(a) Service charges for customers taking both water and sewer service are not duplicative.		
18	(b) Minimum charge times number of full months off the system. per Rule R14-2-603D.		
19	(c) Per Rule R14-2-608F. Greater of \$5.00 or 1.5% of unpaid balance.		
20	(d) No charge for service calls during normal working hours.		
21	(e) Per ACC Rules R14-2-603B <u>Residential</u> - two times the average bill.		
22	<u>Non-residential</u> - two and one-half times the average bill.		
23	(f) At cost. Customer/Developer shall install or cause to be installed all Service Laterals as a		
24	non-refundable contribution-in-aid of construction..		
25	(g) All Main Extensions shall be completed at cost and shall be treated as non-refundable		
26	contribution-in-aid of construction.		
27			
28			
29	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
30	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
31	TAX. PER COMMISSION RULE 14-2-608D(5).		
32			
33			
34			
35			
36			

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4 Attorneys for Litchfield Park Service Company
5

6 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7
8 IN THE MATTER OF THE APPLICATION
9 OF LITCHFIELD PARK SERVICE
10 COMPANY, AN ARIZONA
11 CORPORATION, FOR A
12 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
PROPERTY AND FOR INCREASES IN ITS
WASTEWATER RATES AND CHARGES
FOR UTILITY SERVICE BASED
THEREON.

DOCKET NO: SW-01428A-09-0103

13 IN THE MATTER OF THE APPLICATION
14 OF LITCHFIELD PARK SERVICE
15 COMPANY, AN ARIZONA
16 CORPORATION, FOR A
17 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
PROPERTY AND FOR INCREASES IN ITS
WATER RATES AND CHARGES FOR
UTILITY SERVICE BASED THEREON.

DOCKET NO: W-01427A-09-0104

18 IN THE MATTER OF THE APPLICATION
19 OF LITCHFIELD PARK SERVICE
20 COMPANY, AN ARIZONA
21 CORPORATION, FOR AUTHORITY (1) TO
22 ISSUE EVIDENCE OF INDEBTEDNESS IN
23 AN AMOUNT NOT TO EXCEED \$1,755,000
24 IN CONNECTION WITH (A) THE
CONSTRUCTION OF TWO RECHARGE
WELL INFRASTRUCTURE
IMPROVEMENTS AND (2) TO
ENCUMBER ITS REAL PROPERTY AND
PLANT AS SECURITY FOR SUCH
INDEBTEDNESS.

DOCKET NO. W-01427A-09-0116



1 IN THE MATTER OF THE APPLICATION
2 OF LITCHFIELD PARK SERVICE
3 COMPANY, AN ARIZONA
4 CORPORATION, FOR AUTHORITY (1) TO
5 ISSUE EVIDENCE OF INDEBTEDNESS IN
6 AN AMOUNT NOT TO EXCEED \$1,170,000
7 IN CONNECTION WITH (A) THE
8 CONSTRUCTION OF ONE 200 KW ROOF
9 MOUNTED SOLAR GENERATOR
10 INFRASTRUCTURE IMPROVEMENTS
11 AND (2) TO ENCUMBER ITS REAL
12 PROPERTY AND PLANT AS SECURITY
13 FOR SUCH INDEBTEDNESS.

DOCKET NO. W-01427A-09-0120

14 **REBUTTAL TESTIMONY**

15 **of**

16 **THOMAS J. BOURASSA**

17 **on**

18 **COST OF CAPITAL**

19 **(Phase 1 – Determination of Rate Base and Rates)**

20 **December 2, 2009**

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

6 A. On behalf of the applicant, Litchfield Park Service Company ("LPSCO" or the
7 "Company").

8 **Q. ARE YOU THE SAME THOMAS J. BOURASSA THAT FILED DIRECT**
9 **TESTIMONY ON RATE BASE, INCOME STATEMENT, REVENUE**
10 **REQUIREMENT AND RATE DESIGN IN THIS DOCKET?**

11 A. Yes, and all of my background information and testimony regarding my
12 qualifications is contained in that portion of my direct testimony.

13 **Q. DID YOU ALSO PREPARE DIRECT TESTIMONY ON THE COST OF**
14 **CAPITAL ON BEHALF OF LPSCO IN THIS CASE?**

15 A. Yes, I also provided direct testimony on the cost of capital, including the cost of
16 equity, in this case.

17 **II. SUMMARY OF REBUTTAL TESTIMONY AND THE PROPOSED COST**
18 **OF CAPITAL FOR THE COMPANY**

19 A. **Summary of Company's Rebuttal Recommendation.**

20 **Q. WHAT IS THE PURPOSE OF THIS REBUTTAL TESTIMONY?**

21 A. In this portion of my rebuttal testimony I will provide updates of my cost of capital
22 analysis and recommended rate of return using more recent financial data. I also
23 will respond as appropriate to the direct testimonies of Mr. Manrique on behalf of
24 Staff and the direct testimony of Mr. William A. Rigsby on behalf of RUCO.

1 **Q. PLEASE SUMMARIZE YOUR UPDATED COST OF CAPITAL**
2 **ANALYSIS.**

3 **A.** Since the Company's direct filing, the cost of equity has increased substantially, as
4 indicated by the Discounted Cash Flow ("DCF") model and the Capital Asset
5 Pricing Model ("CAPM"). The table below summarizes the results of my updated
6 analysis using those models:

	<u>Range</u>	<u>Midpoint</u>
DCF Constant Growth (earnings growth)	9.3% - 14.9%	12.1%
DCF Constant Growth (sustainable growth)	9.4% - 12.0%	10.7%
Two-Stage Growth Model	9.5% - 13.5%	11.4%
DCF Average Results	9.4% - 13.5%	11.4%
CAPM Historical Market Risk Premium		8.3%
CAPM Current Market Risk Premium		16.7%
Average CAPM Results	8.9%-16.7%	12.5%
Average Overall Results	8.9%-15.1%	12.0%

16 The schedules containing my updated cost of capital analysis are included with my
17 rebuttal schedules, attached to my other rebuttal testimony. Attached to this
18 testimony are five attachments discussed below.

19 I also prepared rebuttal testimony that addresses the Company's rebuttal rate
20 base, its income statement (revenue and operating expenses), its required increase
21 in revenue, and its rate design and proposed rates and charges for service. For the
22 convenience of the Commission and the parties, that volume of my testimony has
23 been filed separately in this case.

24 **Q. PLEASE SUMMARIZE YOUR RECOMMENDED REBUTTAL COST OF**
25 **DEBT AND EQUITY, AND YOUR RECOMMENDED REBUTTAL RATE**
26 **OF RETURN ON RATE BASE.**

1 A. The Company's recommended capital structure consists of 17.9 percent debt and
2 82.1 percent common equity as shown on Rebuttal Schedule D-1. Based on my
3 updated cost of capital analysis, I am recommending a cost of equity of 12.0
4 percent.

5 Based on my 12.0 percent recommended cost of equity, the Company's
6 weighted cost of capital ("WACC") is 11.0 percent, as shown on Rebuttal Schedule
7 D-1.

8 **B. Updates to Direct Testimony.**

9 **Q. WHY IS YOUR COST OF EQUITY RECOMMENDATION LOWER IN**
10 **YOU REBUTTAL THAN IN YOUR DIRECT TESTIMONY?**

11 A. When I prepared my direct testimony in February 2009, the economy was in the
12 midst of a severe recession and a crisis was occurring in the financial markets. The
13 Dow Jones average had fallen by 38 percent and the S&P 500 dropped by 40
14 percent in just a couple of months. During this period, there was a "flight to
15 quality" that led to the traditional spread between required returns on Treasury
16 securities and other assets increasing as investors turned away from common
17 stocks and corporate bonds in favor of treasuries. During the past several months,
18 both the economy and the financial markets have improved. Economists now
19 believe the recession has ended, but also see a long sluggish recovery. As Value
20 Line states "the evolving business upturn may be a checkered affair, with a
21 succession of peaks and valleys along the way...Should [the] uneven recovery
22 unfold, the stock market might remain quite volatile."¹

23 There are several key factors that could cap the strength of economic
24 recovery over the next few years. These include an unusually slow improvement in
25

26 ¹ Value Line Selection and Opinion, October 16, 2009.

1 labor market conditions,² only modest gains in consumer spending, tight credit and
2 a desire by households to pare debt, a slow recovery in residential investment due
3 to still rising home foreclosures and persistently high inventories of unsold existing
4 homes, a further pull-back in commercial construction, limited improvement in
5 capital spending resulting from excess capacity that exists in many sectors, and still
6 lack of capital available to small and mid-sized businesses.³

7 **Q. SO HOW EXACTLY HAS THE COST OF EQUITY DROPPED SINCE**
8 **YOU PREPARED YOUR DIRECT TESTIMONY?**

9 A. My updated analysis indicates cost of equity is 12.0 percent, which is lower than
10 the 14.1 percent indicated cost of equity in my direct testimony. My cost of equity
11 estimates based on the discounted cash flow ("DCF") and the capital asset pricing
12 model ("CAPM") ranged from 9.5 percent to 18.6 percent with a mid-point of 14.1
13 percent. Despite a 14.1 percent indicated cost of equity in my direct cost of equity
14 analysis, my recommendation for the cost of equity was 12.5 percent.

15 **C. Summary of the Recommendations of Staff and RUCO.**

16 **Q. PLEASE SUMMARIZE THE COST OF DEBT AND EQUITY**
17 **RECOMMENDED BY STAFF AND RUCO, AND THEIR RESPECTIVE**
18 **RECOMMENDATIONS FOR THE RATE OF RETURN ON FAIR VALUE**
19 **RATE BASE.**

20 A. Staff determined a cost of equity of 9.2 percent based on the average cost of equity
21 produced by its DCF and CAPM models (10.0 percent) and an 80 basis point
22 downward adjustment for LPSCO's lower financial risk as compared to the
23 publicly traded water utilities in Staff's sample group.⁴ Staff did not consider any

24 ² The unemployment rate recently jumped to 10.2%, which is higher than the unemployment rate
25 during the 2001 recession.

26 ³ Blue Chip Financial Forecasts, Vol. 28, No. 10, October 1, 2009.

⁴ See Direct Testimony of Juan C. Manrique ("Manrique Dt.") at 34.

1 of LPSCO's firm-specific risks other than financial risk. Staff is recommending a
2 capital structure consisting of 17.2 percent debt and 82.8 percent equity.⁵ Based on
3 a capital structure of 17.2 percent debt and 82.8 percent equity, Staff determined
4 the WACC for LPSCO to be 8.7 percent.⁶

5 RUCO determined its recommended cost of equity, 8.01 percent, based on
6 the average cost of equity of its DCF and CAPM results.⁷ RUCO is recommending
7 a recommending a capital structure of 17.8 percent debt and 82.2 percent equity.⁸
8 RUCO's recommended cost of debt is 6.39 percent, based the Company's average
9 cost of debt. Based on a capital structure of 17.8 percent debt and 82.2 percent
10 equity, RUCO computed a WACC of 7.72 percent, which is RUCO's
11 recommended rate of return on FVRB.⁹ RUCO also did not consider firm-specific
12 risks other than financial risk.

13 **II. RESPONSE TO STAFF'S COST OF CAPITAL ANALYSIS**

14 **A. Staff's Financial Risk Adjustment**

15 **Q. DID STAFF RECOMMEND A FINANCIAL RISK ADJUSTMENT?**

16 **A.** Yes, and my primary criticism of Staff's financial risk adjustment is that a beta for
17 LPSCO is required to make this adjustment, yet LPSCO does not have a beta
18 because it is not publicly traded. Staff assumes the beta of the large publicly traded
19 utility companies is the beta for LPSCO. I believe that LPSCO, if it were publicly
20 traded, would have a higher beta than the sample water utility companies.¹⁰ In
21 Chapter 7 of Morningstar's *Ibbotson SBBI 2009 Valuation Yearbook*, for example,

22 ⁵ *Id.*

23 ⁶ *Id.* at 36.

24 ⁷ See the Direct Testimony of William A. Rigsby ("Rigsby Dt.") at 7.

25 ⁸ *Id.*

25 ⁹ *Id.* at 8.

26 ¹⁰ Bourassa Direct Testimony (Cost of Capital) ("Bourassa Dt.") at 37.

1 Ibbotson reports that when betas are properly estimated, betas are larger for smaller
2 companies than for larger companies. A higher beta for LPSCO would result in a
3 much lower financial risk adjustment using the Hamada method Staff employs.

4 A secondary criticism is that Staff ignores the higher risk of LPSCO due to
5 its small size relative to the sample companies. If Staff is going to make a financial
6 risk adjustment for differences in the capital structures between Staff's water proxy
7 group and LPSCO, it should also consider a small firm risk premium to account for
8 firm size differences. Ibbotson finds that even after accounting for differences in
9 beta risk, small firms require an additional risk premium over and above the added
10 risk premium indicated by differences in beta risk.¹¹ Another reviewer also
11 reported evidence that the stocks of small water utilities, like LPSCO, are more
12 risky than the stocks of larger water utilities, such as those in the water utilities
13 sample.¹² Even the California PUC conducted a study that showed smaller water
14 utilities are more risky than larger ones.¹³ Frankly, it seems to me indisputable that
15 investors require higher returns on small company stocks as compared to large
16 company stocks.

17 As a consequence of smaller firms having higher risks (after accounting for
18 differences in beta risk), an additional small firm risk premium should be
19 considered. In the end, differences in financial risk can be more than offset by the
20 required small firm risk premium.

21
22
23 ¹¹ Ibbotson *SBBI 2009 Valuation Yearbook*, Morningstar (Chapter 7).

24 ¹² Thomas M. Zepp, "Utility Stocks and the Size Effect – Revisited," *The Quarterly Review*
25 *Economics and Finance*, Vol. 43, Issue 3, Autumn 2003, 578-582.

26 ¹³ Staff Report on Issues Related to Small Water Utilities, June 10, 1991 and CPUC Decision 92-
03-093.

1 **Q. HAVE YOU PREPARED AN ATTACHMENT SUMMARIZING YOUR**
2 **ASSESSMENT OF THE ADDITIONAL RISK PREMIUMS REQUIRED**
3 **FOR SMALLER FIRMS LIKE LPSCO?**

4 A. Yes. I have included at **TJB-RB-COC (Phase I) Attachment 1** the results of an
5 *Ibbotson* study using annual data reporting the size premium based upon firm size
6 and return data provided in Morningstar *Ibbotson SBBI 2009 Valuation Yearbook*
7 and information contained in a published work by Dr. Thomas M. Zepp. I have
8 estimated that a small company risk premium in the range of 99 to 181 basis points
9 is appropriate. To be conservative, I would estimate a small company risk
10 premium of no less than 100 basis points is warranted for LPSCO. Putting aside
11 the fact that Staff's financial risk adjustment is too high because the beta for
12 LPSCO would be higher than the average beta of Staff's water proxy group, the
13 upward 100 basis point small firm risk premium would more than offset the
14 downward 80 basis point financial risk adjustment recommended by Staff.

15 **Q. DO INVESTORS CONSIDER THESE RISKS?**

16 A. Of course. Contrary to Mr. Manrique's assertion that the risks due to small size
17 and risks associated with the Arizona regulatory requirements use of historic test
18 years and limited out of period adjustments are "unique" risks,¹⁴ the market risk for
19 small utilities and small utilities doing business in Arizona, like LPSCO, is
20 important to investors, and these risks are not captured by the market data of the
21 water utility proxy group Staff uses to estimate the cost of equity for LPSCO.
22 Again, none of the utilities in Staff's water proxy group are of comparable size to
23 LPSCO.¹⁵ In fact, LPSCO is but a small fraction of the size of the water utilities in
24 Staff's water proxy group. Neither are any of the water utilities in Staff's water

25 ¹⁴ Manrique Dt. at 42.

26 ¹⁵ Bourassa Dt. at 18.

1 proxy group subject exclusively to Arizona regulation.¹⁶ Had Mr. Manrique used a
2 proxy group consisting of utilities of similar size to LPSCO and primarily subject
3 to Arizona regulation I would have no argument. But, there is no such market data
4 available.

5 In summary, as I testified, the criteria established by the Supreme Court in
6 decisions such as *Bluefield Water Works* require the use of comparable companies,
7 i.e., companies that would be viewed by investors as having similar risks. A
8 rational investor would not regard LPSCO has having the same level of risk as
9 Aqua America or even Connecticut Water just because they all sell water under
10 state regulation.¹⁷

11 **Q. DO YOU HAVE ANY OTHER CRITICISMS OF STAFF FINANCIAL RISK**
12 **ADJUSTMENT?**

13 **A.** Yes. Staff uses book values in its Hamada method. This results in an
14 overstatement of the financial risk adjustment. The Hamada method should be
15 based on market values rather than book values.

16 **Q. PLEASE EXPLAIN.**

17 **A.** Professor Hamada developed his methodology using market values of the firm.
18 Market values are relevant.¹⁸ Other authorities in the subject of finance recognize
19 that market values of the firm are relevant when it comes to leverage and financial
20 risk.¹⁹ This is logical given that Professor Hamada's formula is an extension of the
21

22
23 ¹⁶ *Id.* at 18-19.

24 ¹⁷ *Id.*

25 ¹⁸ "Effects of the Firm's Capital structure on Systematic Risk of Common Stock," *Journal of*
26 *Finance*, Vol. 27 No. 2 (May 1972) 435-453.

¹⁹ Shannon, P. Pratt, *Cost of Capital – Estimations and Applications*, John Wiley & Sons 83-85,
Roger A. Morin. *New Regulatory Finance* (2006) 221-25.

1 CAPM, which is a market-based model that does not consider book or accounting
2 data.

3 **Q. HAS STAFF PROVIDED ANY SUPPORT FOR USING BOOK DEBT AND**
4 **EQUITY?**

5 A. No. Staff's discussion on the subject is sparse.²⁰ It is difficult to address this
6 subject adequately at this time without knowing Staff's rationale and authoritative
7 support for the use of book values. I have been unable to find any authority for
8 using book value in the Hamada formula.

9 **Q. WHAT FINANCIAL RISK ADJUSTMENT HAVE YOU COMPUTED**
10 **USING STAFF'S MODELS AND MARKET VALUES?**

11 A. I computed a downward financial risk adjustment of 50 basis points. I used the
12 market value of equity for the publicly traded water utilities, which I computed
13 using their market-to-book ratios as set forth in Staff's testimony. For debt, I used
14 the book value of debt as the market value. According to Dr. Morin, this is an
15 appropriate assumption.²¹ To compute the market value of LPSCO's equity, I used
16 the market value of LPSCO's equity using the average market-to-book ratio of the
17 sample publicly traded utility companies.

18 **Q. SO STAFF'S HAMADA ADJUSTMENT IS OVERSTATED BY AT LEAST**
19 **40 BASIS POINTS?**

20 A. Yes, but that still does not account for the problem with using the average betas as
21 I discussed above. LPSCO's small size compared to those sample companies taints
22 the use of the beta in the first place, then Staff has overstated it in the second place.
23 Under these circumstances I simply do not believe the evidence supports a
24 financial risk adjustment in the range of 50-80 basis points.

25 ²⁰ Manrique Dt. at 33-34.

26 ²¹ Morin, *supra* at 224.

1 Q. ARE YOU PERSUADED BY MR. MANRIQUE'S TESTIMONY ON PAGE
2 42, WHERE HE REFERENCES PRIOR COMMISSION DECISIONS THAT
3 THE DID NOT FIND A FIRM SIZE PHENOMENON FOR REGULATED
4 UTILITIES?

5 A. No. Frankly, the agency's failure to recognize a small firm risk existence despite
6 an abundance of empirical financial evidence suggesting otherwise is another
7 reason why it is more risky for smaller utilities to do business in Arizona.
8 Investors do recognize the unfavorable regulatory environment here in Arizona. I
9 know first hand because I talk to them in my work. Arizona's regulatory
10 environment may drive investors to invest in utilities in states with more favorable
11 regulatory environments, such as California.²² Three of the six utilities in the
12 Staff's water proxy group are located in California, which offers a more favorable
13 regulatory environment by using future test years and adjustor/balancing accounts
14 in its rate-setting process. As a result, utilities in Arizona are finding it
15 increasingly difficult to attract capital as investors invest their funds in less-risky
16 regulatory environments.

17 B. Response to Staff' Criticisms of LPSCO Cost of Capital Analysis

18 Q. PLEASE RESPOND TO MR. MANRIQUE'S TESTIMONY ON THE
19 ARTICLE, "CHOICE AMONG METHODS OF ESTIMATING SHARE
20 YIELD", BY GORDON, GORDON, AND GOULD, WHICH ARTICLE YOU
21 REFERENCED AS SUPPORTING ESTIMATING THE DCF GROWTH
22 RATE.

23 A. Mr. Manrique characterizes the article as merely an "article that describes more
24 generally the methods exclusively using analysts' forecasts [as] 'popular and
25

26 ²² Bourassa Dt. at 15-16; *see also* Rebuttal Testimony of Greg Sorensen (Phase I) at 11.

1 attractive models'; but the article does not support the conclusion that analyst
2 forecasts should be used alone."²³ However, the article reported on a formal study
3 conducted by the authors which concluded:

4 We have compared the accuracy of four methods for
5 estimating the growth component of the discounted cash flow
6 yield on a share: past growth in earnings (KEGR), past
7 growth in dividends (KDGR), past retention growth rate
8 (KBRG), and forecasts of growth by security analysts
9 (KFRG)..... For our sample of utility shares, KFRG
10 performed well, with KBRG, KDGR, and KEGR following in
11 that order, and with KEGR a distant fourth....

12 Before closing, we have three observations to make. First,
13 the superior performance by KFRG should come as no
14 surprise. All four estimates of growth rely upon past data, but
15 in the case of KFRG a larger body of past data is used,
16 filtered through a group of security analysts who adjust for
17 abnormalities that are not considered relevant for future
18 growth...²⁴

19 As I testified, to the extent that past results provide useful indications of
20 future growth prospects, analysts' forecasts or growth would already incorporate
21 that information.²⁵ In addition, a stock's current price reflects known historic
22 information on that company, including its past earnings history.²⁶ If investors rely
23 on such analysts' growth rate forecasts those are the forecasts of relevance to the
24 determination of equity costs.

25 **Q. PLEASE COMMENT ON MR. MANRIQUE'S TESTIMONY ON PAGE 37-**
26 **38 REFERENCING PROFESSOR GORDON'S REMARKS AT THE 30TH**
ANNUAL FORUM OF THE SOCIETY OF UTILITY AND REGULATORY
FINANCIAL ANALYSTS.

23 Manrique Dt. at 37.

24 David A. Gordon, Myron J. Gordon and Lawrence I Gould, "Choice Among Methods of Estimating Share Yield," *Journal of Portfolio Management* (Spring 1989) 50-55.

25 Bourassa Dt. at 27-28.

26 *Id.*

1 A. First, let me state that I do not know the context upon which Professor Gordon
2 made his remarks. Further, in the quoted remarks, Professor Gordon does not say
3 anything about past growth rates. There is no reference in the quotation as to
4 which past growth rates (EPS, DPS, book value) should be used, if any, or what
5 weighting past growth rates should be given when estimating the growth rate for
6 the DCF model.²⁷ Having said that, Mr. Manrique confirms "Professor Gordon
7 would temper the typically higher analysts' growth rates with the typically lower
8 GNP growth rate."²⁸ I am sure Mr. Manrique would agree that I have done this in
9 my two-stage DCF model.²⁹ The result of my two-stage DCF model indicates a
10 cost of equity of 10.9 percent. Compare that to Staff's overall DCF results of 9.7
11 percent.³⁰ So, having tempered the analysts' growth rates I employ with a lower
12 GNP, my estimate is still significantly greater than Staff's. This is the result of
13 Staff's models being heavily weighted on low historical growth rates.

14 **Q. DOES MR. MANRIQUE STATE THAT INVESTORS RELY ON ANALYST**
15 **ESTIMATES?**

16 A. Yes.³¹ He also states that investors rely "to some extent on past growth as well."
17 However, he does not provide support as to what extent investors rely on past
18 growth rates, only that they are considered. Staff's approach to estimating the
19 growth rate gives 50 percent weight to historic growth rates. If analyst estimates
20 already consider past growth, then Staff vastly overstates the impact of past growth
21 rates in its growth rates. And, by utilizing past growth rates that produce extremely
22 low results, Staff biases its DCF results downward.

23 ²⁷ Staff has not provided Professor Gordon's complete remarks in their work papers.

24 ²⁸ Manrique Dt. at 38.

25 ²⁹ Rebuttal Schedule D.4-10.

26 ³⁰ See Staff Schedule JCM-3.

³¹ Manrique at 38.

1 Q. PLEASE EXPLAIN.

2 A. I have prepared two exhibits that demonstrate the unrealistically low results
3 produced by Staff's historical growth rates. **TJB-RB-COC (Phase I) Attachment**
4 **2** and **TJB-RB-COC (Phase I) Attachment 3** show the DCF results produced by
5 Staff's historical DPS and EPS growth rates. For example, as shown in **TJB-RB-**
6 **COC (Phase I) Attachment 2**, Staff's historical DPS growth rates produce
7 indicated costs of equity *below* the cost of debt for 3 of the 6 publicly traded water
8 utilities in Staff's water proxy group – one as low as 3.9 percent. The average
9 indicated cost of equity is 6.6 percent, which is nearly at the current cost of Baa
10 investment grade bonds at 6.3 percent and well below the expected Baa investment
11 grade bond cost of 7.4 percent during the period of time new rates will be in effect.
12 As shown in **TJB-RB-COC (Phase I) Attachment 3**, Staff's historical EPS
13 growth rate produces indicated costs of equity *below* the cost of debt for 3 of the 6
14 publicly traded water utilities in Staff's water proxy group – one as low as 4.9
15 percent. Again, the average indicated cost of equity is only 6.8 percent, not much
16 above the current cost of Baa investment grade bonds and well below the expected
17 cost of Baa investment grade bonds during the period of time new rates will be in
18 effect. Thus, while Mr. Manrique criticizes my use of analyst estimates, he does
19 not explain why growth rates which produce indicated costs of equity below the
20 cost of debt are reasonable and should be given 50 percent weight in his DCF
21 growth estimate computation.

22 Q. DO YOU HAVE OTHER COMMENTS IN RESPONSE TO MR.
23 MANRIQUE'S TESTIMONY ON ANALYST ESTIMATES?

24 A. Yes. Mr. Manrique's reliance on the quote from Jeremy Siegel that dividends and
25 not earnings are meaningful is puzzling.³² My first comment is that the DCF

26 ³² Manrique Dt. at 40.

1 model assumes, among other things, that a firm will have a stable dividend payout
2 policy and a stable earned return on book value. Thus, the stock price, book value,
3 dividends, and earnings all grow at the same rate. While it is appropriate to make
4 such assumptions for forecasting purposes, these assumptions are frequently
5 violated when examining historical data. As it turns out, the historical growth in
6 the stock price, book value, dividends, and earnings for the water have not been the
7 same.³³ As a result, estimates of long-term growth rates should take this into
8 account.

9 Second, I have not used earnings in my DCF model; I used earnings growth
10 as a proxy for growth. It is from earnings that cash flows are generated to pay
11 dividends. Growth in earnings provides more cash flows from which to pay
12 dividends. As a consequence, earnings growth is a meaningful and appropriate
13 proxy for growth in the DCF model.

14 Finally, I do not disagree with Professor Siegel that the price of a stock is
15 the always equal to the present value of all future cash flows. I am sure Professor
16 Siegel would agree that future cash flows would not only include dividends by the
17 future selling price of the stock. The Market Price version of the DCF model
18 measures precisely that. I described the Market Price version of the DCF model in
19 my direct and will not repeat that testimony here.³⁴ Putting that aside, a 10 year
20 Market Price DCF model for the sample publicly traded utility stocks would
21 indicate a cost of equity of 12.8 percent.

22
23
24
25 ³³ See Rebuttal Schedule D.4-3 and Rebuttal Schedule D.4-4.

26 ³⁴ Bourassa Dt. at 24-25.

1 Q. HAVE YOU PREPARED AN EXHIBIT ILLUSTRATING THE MARKET
2 PRICE DCF FOR THE WATER UTILITY SAMPLE?

3 A. Yes. At TJB-RB-COC (Phase I) Attachment 4 I have included a Market Price
4 DCF computation for the sample publicly traded water utilities using 10 year
5 historical dividend growth and 10 year historical stock price growth. Again, the
6 average result is 12.8 percent (12.1 percent median) which compares far more
7 favorably to my cost of equity estimate of 12.0 percent than to Staff's cost of
8 equity estimate of 10.0 percent.

9 **III. RESPONSE TO RUCO'S COST OF CAPITAL ANALYSIS**

10 A. **Use of Gas Utilities to Develop Cost of Equity**

11 Q. HOW DOES THE SAMPLE OF WATER UTILITIES MR. RIGSBY USED
12 TO ESTIMATE THE COST OF EQUITY COMPARE TO THE UTILITIES
13 USED BY THE COMPANY AND STAFF?

14 A. Mr. Rigsby used three publicly traded water utilities. He used the three largest
15 water utilities out of the six water utilities that I have used and Staff typical uses
16 when performing its cost of capital analysis.

17 Q. DOES MR. RIGSBY ALSO USE SAMPLE GAS COMPANIES TO
18 DEVELOP HIS ESTIMATE OF THE COST OF EQUITY? HOW DO
19 THEY COMPARE TO THE SAMPLE WATER COMPANIES?

20 A. Yes. He uses ten natural gas companies. However, the sample gas utilities are less
21 risky and therefore not comparable to water utilities. His sample water companies,
22 for example, have an average beta of 0.83, while his sample gas companies have an
23 average beta of just 0.67.³⁵ That means that the equity cost for the water utility
24 should be greater than the gas companies, based on their relative riskiness.

25
26 ³⁵ See RUCO Schedule WAR-7, page 1 of 2.

1 The water utility sample has more systematic risk than the gas utility
2 sample. Mr. Rigsby erroneously assumes that the gas utilities and water utility
3 have the same systematic risk and are directly comparable, when they are not.

4 **Q. CAN THE GAS UTILITIES BE USED TO ESTIMATE LPSCO'S COST OF**
5 **EQUITY?**

6 A. Yes, if the results produced by the DCF and CAPM models are adjusted upward to
7 reflect the water utilities' additional risk. Mr. Rigsby, however, has made no
8 adjustment to account for the water utilities' additional risk.

9 **Q. HAS THIS ISSUE EVER COME UP BEFORE?**

10 A. Yes. In several prior cases, water utilities presented evidence of the cost of equity
11 using financial data for a similar group of publicly traded gas companies, which at
12 that time had a higher average beta than the water utility sample. In rejecting this
13 evidence, the Commission adopted Staff's argument that because the water utility
14 sample had a lower average beta than the gas utility sample, the cost of equity for
15 the water utility should be lower. For example, in Arizona Water Company's
16 Eastern Group rate case, the water utility sample had an average beta of 0.59, while
17 the gas utility sample had an average beta of 0.69. Staff estimated that based on
18 the difference in the two groups' betas, the sample gas companies has an equity
19 cost that is 100 basis points higher than the water utilities.³⁶

20 **Q. WHAT IS THE IMPACT OF RUCO'S USE OF THE GAS UTILITIES TO**
21 **ESTIMATE THE COST OF EQUITY IN THIS CASE?**

22 A. By averaging the results of his equity cost estimate for the water utility sample with
23 his equity cost estimate for the gas utility sample, Mr. Rigsby has depressed the
24 cost of equity estimates. For example, the average of Mr. Rigsby's CAPM

25 ³⁶ Decision No. 66849 (March 19, 2004) at 21; see also *Arizona-American Water Company*
26 Decision No. 67093 (June 30, 2004) at 27.

estimates for the water companies and gas companies are 6.71 percent and 5.88 percent, respectively. This is an 83 basis point difference.

Q. HOW WOULD AN APPROPRIATE RISK ADJUSTMENT BE CALCULATED?

A. By using the CAPM. As I explained above, the difference between the results produced by Mr. Rigsby's CAPM model is 83 basis points. Because of the method used by Mr. Rigsby to implement the CAPM, however, 83 basis points understates the required adjustment to properly reflect the gas utilities' lower investment risk. If my method and inputs are used instead, similar to the method used in the aforementioned Arizona Water Eastern Group case, the result is 140 basis points, calculated as follows:

	<u>Rf</u>		<u>Beta</u>		<u>Rp</u>		<u>K</u>
Historic MRP	2.8%	+	0.67	X	6.9%	=	7.4%
Current MRP	4.3%	+	0.67	X	15.5%	=	<u>14.7%</u>
Average Gas Utility Sample							<u>11.1%</u>
Average Water Utility Sample ³⁷							<u>12.5%</u>
Difference/Risk Adjustment							1.4%

Given this difference, it is clearly inappropriate to simply average the gas utilities' equity cost with the water utilities' equity cost, as Mr. Rigsby has done. This error assumes that a typical gas utility has the same investment risk as a typical water utility, which is simply not the case at the present time. As a result, Mr. Rigsby's use of gas utilities depresses the cost of equity for LPSCO.

³⁷ See Rebuttal Schedule D-4.13.

1 **B. Criticisms of RUCO's Implementation of the CAPM**

2 **Q. WHAT OTHER CONCERNS DO YOU HAVE WITH RESPECT TO MR.**
3 **RIGBY'S CAPM ANALYSIS?**

4 A. I have four other concerns with respect to Mr. Rigsby's CAPM analysis. First,
5 Mr. Rigsby employs a geometric average in calculating the market risk premium in
6 his CAPM. His choice to use geometric average depresses his cost of equity
7 estimate downward. An arithmetic average is the correct approach to use in
8 estimating the cost of capital, as various experts have explained.³⁸ In fact, the
9 CAPM was developed on the premise of expected returns being averages and risk
10 being measured with the standard deviation. As Dr. Morin states,

11 Since the latter [standard deviation] is estimated around the
12 arithmetic average, and not the geometric average, it is logical
13 to stay with arithmetic averages to estimate the market risk
14 premium. In fact, annual returns are uncorrelated over time,
 and the objective is to estimate the market risk premium for
 the next year, the arithmetic average is the best unbiased
 estimate of the premium.³⁹

15 Attached at TJB-RB-COC (Phase I) Attachment 5 is an excerpt from Dr.
16 Roger Morin's textbook on regulatory finance, which provides a detailed
17 discussion of this issue.⁴⁰

18 Second, Mr. Rigsby uses the U. S. Treasury total returns in his computation
19 when he should have used U.S. Treasury income returns. As I explained in my
20 direct testimony, the market risk premium is calculated by subtracting the risk-free
21 rate from the market return.⁴¹ Mr. Rigsby erroneously used the average total return

22
23 ³⁸ Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* 156-157 (7th ed.
24 2003); Roger A. Morin, *New Regulatory Finance* 156-157 (Public Utility Reports, Inc. 2006)
 ("Morin"); *Ibbotson SBBI 2009 Valuation Yearbook* 59-62.

25 ³⁹ *Morin, supra*, at 157-157.

26 ⁴⁰ *Morin* at 133-43.

⁴¹ *Bourassa Dt.* at 29.

1 on a Treasury security rather than the average income return. As shown on
2 Schedule WAR-7, at page 2, attached to Mr. Rigsby's direct testimony, the total
3 return used to calculate the market risk premium was 5.6 percent. This was the
4 average total return on an intermediate-term Treasury (1926-2008) as published in
5 the *2009 Ibbotson SBBI Valuation Edition Yearbook* (Table 2-1). By contrast, the
6 average income return for an intermediate-term Treasury security was 4.7 percent.

7 The reason that an average income return must be used, rather than the
8 average total return, is quite straightforward. The CAPM is a risk premium
9 methodology that is based on the premise that an investor expects to earn a return
10 equal to the return on a risk-free investment, plus a premium for assuming
11 additional risk that is proportional to the security's market risk (i.e., its beta). U.S.
12 Treasuries are commonly used as a proxy for the risk-free rate because they are
13 backed by the United States government, effectively eliminating default risk. The
14 income return is the portion of the total return that results from the bond's periodic
15 cash flow, i.e., the interest payments. The income return provides an unbiased
16 estimate of the riskless rate of return because an investor can hold the Treasury
17 security to maturity and receive fixed interest payments with no capital loss or
18 capital gain. If the total return on a Treasury security is used instead, additional
19 risk is injected into the CAPM estimate, which is inconsistent with treating the
20 security as a riskless asset. As explained by *Ibbotson*:

21 Another point to keep in mind when calculating the equity
22 risk premium is that the income return on the appropriate-
23 horizon Treasury security, rather than the total return, is used
24 in the calculation. The total return is comprised of three
25 return components: the income return, the capital appreciation
26 return, and the reinvestment return. The income return is
defined as the portion of the total return that results from a
periodic cash flow or, in this case, the bond coupon payment.
The capital appreciation return results from the price change
of a bond over a specific period. Bond prices generally
change in reaction to unexpected fluctuations in yields.

1 Reinvestment return is the return on a given month's
2 investment income when reinvested into the same asset class
3 in the subsequent months of the year. The income return is
4 thus used in the estimation of the equity risk premium
5 because it represents the truly riskless portion of the return.⁴²

6 As a consequence of incorrectly using U.S. Treasury total returns and well
7 as geometric means, RUCO's CAPM estimate dramatically understates the cost of
8 equity for the water utility sample. If an intermediate-term Treasury security is
9 used as the proxy for the risk-free rate of return, the market risk premium would
10 increase to 6.9 percent from 6.1 percent using the conceptually correct arithmetic
11 averages. If that market risk premium is substituted for the 6.1 percent market risk
12 premium used by Mr. Rigsby, the arithmetic mean CAPM cost of equity for his
13 water utility sample would increase from 7.5 percent to 8.2 percent – an increase of
14 70 basis points.

15 Third, Mr. Rigsby has ignored current market risk. This Commission has
16 consistently approved the use of a current market risk premium in implementing
17 the CAPM in water and wastewater utility rate cases. In the Chaparral City case,⁴³
18 for example, the Commission adopted cost of capital used an historic market risk
19 premium and a current market risk premium in its CAPM estimates.⁴⁴ RUCO,
20 however, has ignored current market risk in its CAPM estimates and has relied
21 instead on incorrectly calculated historic market risk premiums.

22 Changes in the current market risk premium have been a significant factor in
23 the cost of equity authorized by the Commission for water and wastewater utilities.

24 ⁴² *Ibbotson* at 75-76.

25 ⁴³ *Chaparral City Water Company*, Decision No. 68176 (September 30, 2005).

26 ⁴⁴ See Direct Testimony of Alejandro Ramirez, Docket No. W-02113A-04-0616 (March 22, 2005); Surrebuttal Testimony of Alejandro Ramirez, Docket No. W-02113A-04-0616 (May 5, 2005).

1 In Arizona Water Company's Eastern Group case, filed in 2002, Staff computed a
2 current market risk premium of 13.1 percent in its CAPM estimate, and relied on
3 that market risk premium in estimating a cost of equity of 9.2 percent, using the
4 same six sample water utilities.⁴⁵ At that time, the country was in the midst of a
5 recession, and, according to Staff, interest rates had fallen to the lowest levels since
6 the 1950s.⁴⁶ Moreover, the average beta of Staff's water utility sample group was
7 only 0.59 at that time, indicating that investment risk for the water utility industry
8 was low relative to the market.⁴⁷

9 Two years later, Arizona Water Company filed a rate case for its Western
10 Group systems. Interest rates had increased from the levels in 2003, and the
11 average beta of the Staff's sample utilities had increased as well, indicating greater
12 investment risk. However, Staff's cost of equity estimate was virtually identical to
13 the Eastern Group case, 9.1 percent.⁴⁸ The primary reason was that Staff's current
14 market risk premium had dropped from 13.1 percent to 7.8 percent.⁴⁹ The
15 Commission, in adopting Staff's CAPM estimate, relied on this change, explaining
16 that "while interest rates have gone up, the cost of equity for the market as a whole
17 has decreased, while the cost of equity for utilities has remained relatively
18 stable."⁵⁰

20
21 ⁴⁵ Decision No. 66849 at 21 (March 19, 2004); *see also* Direct Testimony of Joel M. Reiker,
Docket No. W-01445A-02-0619, 24-25 (July 8, 2003).

22 ⁴⁶ Direct Testimony of Joel M. Reiker, Docket No. W-01445A-02-0619, 5 (July 8, 2003).

23 ⁴⁷ Direct Testimony of Joel M. Reiker, Docket No. W-01445A-02-0619, 23 (July 8, 2003); *see also* Decision No. 66849 at 20.

24 ⁴⁸ Surrebuttal Testimony of Alejandro Ramirez, Docket No. W-01445A-04-0650, Sch. AXR-8
(May 25, 2005).

25 ⁴⁹ *Id.*

26 ⁵⁰ *Arizona Water Co. (Western Group)*, Decision No. 68302 at 38 (Nov. 14, 2005).

1 Even more recently, in Black Mountain Sewer Corporation's rate case, the
2 Commission relied on a further decline in the current market risk premium to
3 support Staff's recommended 9.6 percent cost of equity.⁵¹ In that case, interest
4 rates and the average beta of the sample group were even higher than 2003 levels,
5 and while the result produced by Staff's models was higher, the increase was not as
6 large as would be expected.⁵² The reason was that the current market risk premium
7 had decreased to only 5.7 percent, reducing the result produced by the CAPM.
8 Thus, while interest rates increased and the investment risk of the water utility
9 sample had increased, Staff explained that those increases were offset by a further
10 decline in the current market risk premium, indicating that the overall risk of the
11 market had declined.⁵³

12 As these decisions show, not only has the Commission consistently
13 considered the current market risk premium, but changes in the current market risk
14 premium have had a major impact on the cost of equity, offsetting changes in
15 interest rates and water utility betas in recent cases. Further, RUCO's witness has
16 acknowledged the importance of considering current market conditions in
17 determining the cost of equity:

18 Consideration of the economic environment is necessary
19 because trends in interest rates, present and projected levels
20 of inflation, and the overall state of the U.S. economy
21 determine the rate of return that investors earn on their
invested funds. Each of these factors represent potential risks
that must be weighed when estimating the cost of equity

22 ⁵¹ *Black Mountain Sewer Corp.*, Decision No. 69164 (Dec. 5, 2006).

23 ⁵² In the Black Mountain case, the intermediate-term Treasury used by Staff in its CAPM was 4.8
24 percent, while the average beta of Staff's sample group was 0.74. Surrebuttal Testimony of Pedro
25 M. Chaves, Docket No. SW-02361A-05-0657, Sch. PMC-2 (May 4, 2006). In Arizona Water's
Eastern Group case, in contrast, the intermediate-term Treasury used by Staff in its CAPM was
3.3 percent, while the average beta of Staff's sample group was 0.59. Direct Testimony of Joel
M. Reiker, Docket No. W-01445A-02-0619, Sch. JMR-7 (July 8, 2003).

26 ⁵³ *Black Mountain Sewer Corp.*, Decision No. 69164 at 25-26 (Dec. 5, 2006).

1 capital for a regulated utility and are, most often, the same
2 factors considered by individuals who are also investing in
non-regulated entities.⁵⁴

3 In light of the current volatility in the financial markets, the failure to
4 consider current market risk would grossly distort the CAPM result. Consequently,
5 RUCO's use of two historic market risk premiums (one of which is conceptually
6 wrong for the reasons given previously) without considering the impact of current
7 market risk on investor expectations invalidates RUCO's cost of equity estimate.

8 Finally, and perhaps most importantly of all, three of the four of
9 Mr. Rigsby's CAPM estimates (one for water and two for the gas utilities), as well
10 as his overall CAPM result, are at or below the current cost of Baa investment
11 grade bonds. The current cost of investment grade bonds is 6.3 percent.⁵⁵ The
12 following are the results of Mr. Rigsby's CAPM as shown on WAR-1, page 3 of 3:

13	Geometric mean CAPM estimate - water companies	5.92%
14	Arithmetic mean CAPM estimate - water companies	7.49%
15	Geometric mean CAPM estimate - gas companies	5.25%
16	Arithmetic mean CAPM estimate - gas companies	<u>6.51%</u>
17	Overall CAPM result	6.29%

18
19 A simple reality check should have caused Mr. Rigsby to question his inputs
20 to the CAPM. This clearly demonstrates that RUCO's methods are not only biased
21 downward, but should not be used.

22 **Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?**

23 **A. Yes.**

24
25 ⁵⁴ Rigsby Dt. at 38.

26 ⁵⁵ Federal Reserve, November 23, 2009.

**BOURASSA REBUTTAL
COST OF CAPITAL SCHEDULES
(Phase I)**

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Summary of Cost of Capital

Exhibit
Schedule D-1
Page 1
Witness: Bourassa

		<u>End of Test Year</u>			<u>End of Projected Year</u>				
Line No.	Item of Capital	Dollar Amount	Percent of Total	(e) Cost Rate	Weighted Cost	Dollar Amount	Percent of Total	(e) Cost Rate	Weighted Cost
1	Long-Term Debt	11,506,844	17.86%	6.39%	1.14%	\$ 11,274,570	16.61%	6.40%	1.06%
2									
3	Stockholder's Equity ¹	52,906,962	82.14%	12.00%	9.86%	56,603,834	83.39%	12.00%	10.01%
4									
5	Totals	\$ 64,413,805	100.00%		11.00%	\$ 67,878,403	100.00%		11.07%

SUPPORTING SCHEDULES:

D-1
D-3
D-4
E-1

RECAP SCHEDULES:
A-3

Line No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33

**Exhibit
Schedule D-2
Page 1
Witness: Bourassa**

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Preferred Stock

Exhibit
Schedule D-3
Page 1
Witness: Bourassa

Line No.	Description of Issue	<u>End of Test Year</u>			<u>End of Projected Year</u>		
		Shares Outstanding	Amount	Dividend Requirement	Shares Outstanding	Amount	Dividend Requirement
1							
2							
3	NOT APPLICABLE, NO PREFERRED STOCK ISSUED OR OUTSTANDING						
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17	SUPPORTING SCHEDULES:				RECAP SCHEDULES:		
18	(a) E-1				(a) D-1		
19							
20							

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Common Equity

Exhibit
Schedule D-4
Page 1
Witness: Bourassa

Line

No.

1

2

The Company is proposing a cost of common equity of 12.00% .

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SUPPORTING SCHEDULES:

18

(a) E-1

19

RECAP SCHEDULES:

20

(a) D-1

Litchfield Park Service Company
Summary of Results

Exhibit
Rebuttal Schedule D-4.0
Witness: Bourassa

Line No.	Method	Low	High	Midpoint
1				
2				
3				
4				
5	DCF Constant Growth	9.3%	14.9%	12.1%
6	DCF Sustainable Growth	9.4%	12.0%	10.7%
7	DCF Two-Stage	9.5%	13.5%	11.5%
8				
9	Average DCF Results	9.4%	13.5%	11.4%
10				
11	CAPM	8.3%	16.7%	12.5%
12				
13	Average DCF and CAPM Results	8.9%	15.1%	12.0%
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				

Litchfield Park Service Company
Selected Characteristics of Water Utilities

Exhibit
 Rebuttal Schedule D-4.1
 Witness: Bourassa

Line No.	Company	% Water Revenues	Operating Revenues (millions)	Net Plant (millions)	S&P Bond Rating	Moody's Bond Rating
1	1. American States	76%	\$ 342.6	\$ 744.9	A	A2
2	2. Aqua America	93%	\$ 658.8	\$ 3,479.8	AA-	NR
3	3. California Water	98%	\$ 435.1	\$ 1,026.3	AA-	NR
4	4. Connecticut Water	93%	\$ 66.2	\$ 260.3	AAA	NR
5	5. Middlesex	89%	\$ 90.8	\$ 327.0	A	NR
6	6. SJW Corp.	95%	\$ 217.3	\$ 509.5	NR	NR
7						
8						
9						
10						
11	Average	91%	\$ 301.8	\$ 1,058.0		
12						
13	Litchfield Park Service Company	100%	\$ 13.2	\$ 116.3	NR	NR
14						

Source: AUS Utility Reports (November 2009)

Line No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

**Litchfield Park Service Company
Capital Structures of Water Utilities**

Exhibit
Rebuttal Schedule D-4.2
Witness: Bourassa

No.	Company	Book Value		Market Value	
		Long-Term <u>Debt</u>	Common <u>Equity</u>	Long-Term <u>Debt</u>	Common <u>Equity</u>
1	1. American States	46.2%	53.8%	32.5%	67.5%
2	2. Aqua America	54.1%	45.9%	36.7%	63.3%
3	3. California Water	41.7%	58.3%	28.0%	72.0%
4	4. Connecticut Water	47.0%	53.0%	32.2%	67.8%
5	5. Middlesex	46.2%	53.8%	35.7%	64.3%
6	6. SJW Corp.	46.0%	54.0%	34.9%	65.1%
7					
8					
9					
10					
11	Average	46.9%	53.1%	33.3%	66.7%
12					
13	Litchfield Park Service Company	17.8%	82.2%	N/A	N/A
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					

Source: Value Line Analyzer Data (November 20, 2009)

Exhibit
Rebuttal Schedule D-4.3
Page 1
Witness: Bourassa

¹ See Schedule D-4.5

Value Line Data
Yahoo Finance

Exhibit
Rebuttal Schedule D-4.4
Page 1
Witness: Bourassa

¹ See Schedule D-4.5

Sources:
Value Line Data
Yahoo Finance

Litchfield Park Service Company
 Analysts Forecasts of Earnings Per Share Growth

Line No.	(1)	(2)	(3)	(4)	(5)
	EPS GROWTH				Average Growth (G)
	<u>Zacks</u>	<u>Morningstar</u>	<u>Yahoo</u>	<u>Value Line</u>	<u>(Cols 1-3)</u>
1. American States	4.00%	7.00%	4.00%	9.50%	6.13%
2. Aqua America	8.00%	8.80%	8.33%	10.00%	8.78%
3. California Water	7.00%	7.30%	6.00%	9.00%	7.33%
4. Connecticut Water	9.00%		15.00%	9.00%	11.00%
5. Middlesex	9.00%	8.00%	8.00%	7.00%	8.00%
6. SJW Corp.		15.00%	10.00%	10.00%	11.67%
GROUP AVERAGE	7.40%	9.22%	8.56%	9.08%	8.82%
GROUP MEDIAN					8.39%

Sources:

Value Line Investment Analyzer Data November 20, 2009
 Zacks Investment Research Website November 20, 2009
 Morningstar Website November 20, 2009
 Yahoo Finance Website November 20, 2009

Litchfield Park Service Company
Estimates of Sustainable Growth

Exhibit
Rebuttal Schedule D-4.6
Witness: Bourassa

Line No.	(1)	(2)	(3)	(4)	(5)
	<u>Company</u>	<u>Retention Ratio</u>	<u>Rate of Return</u>	<u>br Growth</u>	<u>sv Growth</u>
1	1. American States	0.52	12.00%	6.23%	8.79%
2	2. Aqua America	0.48	11.50%	5.52%	5.95%
3	3. California Water	0.49	12.00%	5.93%	6.91%
4	4. Connecticut Water				
5	5. Middlesex				
6	6. SJW Corp.				
7					
8					
9					
10					
11					
12					
13					
14					
15	GROUP AVERAGE	0.50	11.83%	5.89%	7.22%
16	GROUP MEDIAN	0.49	12.00%	5.93%	6.91%
17					
18	Sources:				
19	Value Line Data				
20					
21					
22					
23					

Average
Sustainable
Growth
(Cols 3+4)

Litchfield Park Service Company
Estimates of sv Growth

Exhibit
Rebuttal Schedule D-4.7
Witness: Bourassa

Line No.	(1)	(2)	(3)	(4)
	Stock Financing	Current Market to Book		sv
	<u>Rate</u>	<u>Ratio</u>	<u>v</u>	<u>Growth</u>
1. American States	5.84%	1.78	0.44	2.56%
2. Aqua America	0.85%	2.03	0.51	0.43%
3. California Water	2.14%	1.84	0.46	0.98%
4. Connecticut Water				na
5. Middlesex				na
6. SJW Corp.				na
GROUP AVERAGE	2.95%	1.88	0.47	1.32%
GROUP MEDIAN	2.14%	1.84	0.46	0.98%
Sources:				
Value Line Data				

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Constant Growth DCF Model
Using Projected EPS Growth

Exhibit
 Rebuttal Schedule D-4.8
 Witness: Bourassa

Line No.	(1)	(2)	(3)	(4)	(5)
	Company	Spot Price (Po)	Next Year's Div (D1)	Dividend Yield	Indicated Cost of Equity k=Div Yld + g (Cols 3+4)
1	1. American States	31.94	1.02	3.19%	9.3%
2	2. Aqua America	15.88	0.54	3.40%	12.2%
3	3. California Water	35.78	1.18	3.30%	10.6%
4	4. Connecticut Water	22.80	0.89	3.91%	14.9%
5	5. Middlesex	15.91	0.71	4.47%	12.5%
6	6. SJW Corp.	22.18	0.72	3.25%	14.9%
7					
8					
9					
10					
11					
12					
13					
14					
15	GROUP AVERAGE			8.82%	12.4%
16	GROUP MEDIAN				12.3%

¹ See Schedules D-4.5

Sources:

Value Line Investment Analyzer Data November 20, 2009
 Yahoo Finance Website November 20, 2009

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Constant Growth DCF Model - Sustainable Growth

Exhibit
Rebuttal Schedule D-4.9
Witness: Bourassa

Line No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Company	Spot Price (Po)	Next Year's Div (D1)	Dividend Yield	Sustainable Growth ¹	br+sv Growth (g)	Indicated Cost of Equity k=Div Yld + g (Cols.3+6)
1	1. American States	31.94	1.02	3.19%	br 6.23% vs 2.56%	8.79%	12.0%
2	2. Aqua America	15.88	0.54	3.40%	5.52% 0.43%	5.95%	9.4%
3	3. California Water	35.78	1.18	3.30%	5.93% 0.98%	6.91%	10.2%
4	4. Connecticut Water	22.80	0.89	3.91%		7.22%	11.1%
5	5. Middlesex	15.91	0.71	4.47%		7.22%	11.7%
6	6. SJW Corp.	22.18	0.72	3.25%		7.22%	10.5%
7							
8							
9							
10							
11							
12							
13							
14							
15	GROUP AVERAGE			3.59%		7.22%	10.8%
16	GROUP MEDIAN						10.8%
17							
18							
19							
20							
21							
22							
23							
24							

¹ See Schedule D-4.6 and D-4.7

Sources:

Value Line Investment Analyzer Data November 20, 2009
Yahoo Finance Website November 20, 2009

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Two-Stage Growth - Projected

Exhibit
Rebuttal Schedule D-4.10
Witness: Bourassa

Line No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Spot Price(P ₀)	Next Year's Div (D ₁)	Yield (D ₁ /P ₀)	Near Term ¹	Long Term (GDP)	Average ²	Indicated Cost of Equity
1	31.94	1.02	3.19%	6.13%	6.70%	6.31%	9.5%
2	15.88	0.54	3.40%	8.78%	6.70%	8.10%	11.5%
3	35.78	1.18	3.30%	7.33%	6.70%	7.12%	10.4%
4	22.80	0.89	3.91%	11.00%	6.70%	9.58%	13.5%
5	15.91	0.71	4.47%	8.00%	6.70%	7.57%	12.0%
6	22.18	0.72	3.25%	11.67%	6.70%	10.03%	13.3%
7							
8							
9							
10							
11							
12							
13							
14							
15	GROUP AVERAGE		3.59%			8.12%	11.7%
16	GROUP MEDIAN						11.8%

¹ See Schedule D-4.5

² Near term growth given weighting of .67

Exhibit
Rebuttal Schedule D-4.11
Witness: Bourassa

Litchfield Park Service Company
Market Betas

Line No.	Company	
1		
2	1. American States	0.80
3	2. Aqua America	0.65
4	3. California Water	0.75
5	4. Connecticut Water	0.85
6	5. Middlesex	0.80
7	6. SJW Corp.	0.95
8	Average	0.80

10 Source:
11 Value Line Investment Analyzer Data November 20, 2009
12
13
14
15
16

Litchfield Park Service Company
Computation of Current Market Risk Premium

Line No.	Month	Dividend Yield (D/P) ¹	Expected Dividend Yield (D/P) ²	Growth (g) ³	Expected Market Return (k)	Monthly Average 30 Year Treasury Rate ⁴	Market Risk Premium (MRP)
3	Nov	2.60%	2.60%	+ 13.41%	= 16.01%	= 4.52%	= 11.49%
4	Dec 2007	2.61%	2.61%	+ 13.51%	= 16.12%	= 4.52%	= 11.60%
5	Jan 2008	2.67%	2.67%	+ 15.19%	= 17.86%	= 4.53%	= 13.33%
6	Feb	2.74%	3.19%	+ 16.47%	= 19.66%	= 4.52%	= 15.14%
7	Mar	2.85%	3.35%	+ 17.64%	= 20.99%	= 4.39%	= 16.60%
8	April	2.69%	3.11%	+ 15.73%	= 18.84%	= 4.44%	= 14.40%
9	May	2.73%	3.15%	+ 15.51%	= 18.66%	= 4.60%	= 14.06%
10	Jun	3.13%	3.71%	+ 18.51%	= 22.22%	= 4.69%	= 17.53%
11	Jul	3.15%	3.74%	+ 18.61%	= 22.35%	= 4.57%	= 17.78%
12	Aug	3.06%	3.59%	+ 17.08%	= 20.67%	= 4.50%	= 16.17%
13	Sep	3.07%	3.66%	+ 19.30%	= 22.96%	= 4.27%	= 18.69%
14	Oct	4.31%	5.63%	+ 30.53%	= 36.16%	= 4.17%	= 31.98%
15	Nov	4.97%	6.71%	+ 35.02%	= 41.73%	= 4.00%	= 37.73%
16	Dec 2008	4.44%	5.76%	+ 29.62%	= 35.38%	= 2.87%	= 32.51%
17	Jan 2009	4.88%	6.32%	+ 30.02%	= 36.34%	= 3.13%	= 33.21%
18	Feb	5.50%	7.43%	+ 35.13%	= 42.59%	= 3.59%	= 38.97%
19	Mar	4.21%	5.36%	+ 27.33%	= 32.69%	= 3.64%	= 29.05%
20	April	3.66%	4.47%	+ 22.05%	= 28.52%	= 3.76%	= 22.76%
21	May	3.46%	4.14%	+ 19.67%	= 23.81%	= 4.23%	= 19.56%
22	Jun	3.25%	3.87%	+ 19.16%	= 23.03%	= 4.52%	= 18.51%
23	Jul	2.90%	3.37%	+ 16.31%	= 19.68%	= 4.41%	= 15.27%
24	Aug	2.82%	3.22%	+ 14.21%	= 17.43%	= 4.37%	= 13.06%
25	Sep	2.80%	3.20%	+ 14.32%	= 17.52%	= 4.18%	= 13.33%
26	Oct	2.75%	3.15%	+ 14.49%	= 17.64%	= 4.19%	= 13.45%
27							
28							
29	Short-term Trends						
30	Recent Twelve Months Avg	3.72%	4.60%	+ 22.02%	= 26.62%	= 3.98%	= 22.64%
31	Recent Nine Months Avg	3.48%	4.25%	+ 20.30%	= 24.54%	= 4.10%	= 20.44%
32	Recent Six Months Avg	3.00%	3.49%	+ 16.36%	= 19.85%	= 4.32%	= 15.53%
33	Recent Three Months Avg	2.79%	3.19%	+ 14.34%	= 17.53%	= 4.25%	= 13.28%
34							
35	Recommended	3.00%	3.49%	+ 16.36%	= 19.85%	= 4.32%	= 15.53%
36							
37							

¹ Average Current Dividend Yield (D/P_a) of dividend paying stocks. Data from Value Line Investment Analyzer Software Data - Value Line 1700 Stocks

² Expected Dividend Yield (D/P_e) equals average current dividend yield (D/P_a) times one plus growth rate (g).

³ Average 3-5 year price appreciation (annualized). Data from Value Line Investment Analyzer Software Data - Value Line 1700 Stocks

⁴ Monthly average 30 year U.S. Treasury. Federal Reserve.

Litchfield Park Service Company
Test Year Ended September 30, 2008
Capital Asset Pricing Model (CAPM)

Exhibit
Rebuttal Schedule D-4.13
Witness: Bourassa

Line No.	Rf	+	beta ³	x	Rp	=	k
1							
2							
3	2.8%	+	0.80	x	6.9% ⁴	=	8.3%
4							
5	4.3%	+	0.80	x	15.5% ⁵	=	16.7%
6							
7							
8							12.5%
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

¹ Federal Reserve November 20, 2009 average of 5, 7 and 10 year Treasury rates (Rf)

² Federal Reserve November 20, 2009 30 year Treasury rate (Rf)

³ Value Line Investment Analyzer data. See Sched. D-4.11

⁴ Historical Market Risk Premium from (Rp) MorningStar S&P 500 2009 Yearbook Table A-2 Intermediate-Horizon ERP 1926-2008

⁵ Computed using DCF constant growth method to determine current market return on Value Line 1700 stocks and CAPM with beta of 1.0 to compute Current Market Risk Premium (Rp). See Sched. D-4.12.

**TJB-RB-COC
(Phase I)**

ATTACHMENT 1

Attachment 1

Line	No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
------	-----	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

**TJB-RB-COC
(Phase I)**

ATTACHMENT 2

Attachment 2

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Constant Growth DCF Model - Historical
Using Compound 10 Year Historical Dividend Growth

Line No.	[1]	[2]	[3]	[4]	[5]
	Current Dividend Yield (D_0/P_0) ¹	Expected Dividend Yield (D_1/P_0) ²	Staff Historical Div. Growth (g) ³	Indicated Equity Cost k=Div Yld + G (Cols 2+3)	Indicated Equity Cost k=Div Yld + G (Cols 2+3)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

* Indicated equity cost below current cost of debt (Baa) or negative growth.

¹ Spot Dividend Yield = D_0/P_0 . See Schedule D.4-8

² Expected Dividend Yield = $D_1/P_0 = D_0/P_0 * (1+g)$.

³ Growth rate (g). From Staff work papers.

⁴ Federal Reserve. Baa investment grade bonds.

⁵ Blue Chip Financial Forecast (Dec 2009)

**TJB-RB-COC
(Phase I)**

ATTACHMENT 3

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Constant Growth DCF Model - Historical
Using 10 Year Historical EPS Growth

* Indicated equity cost below current cost of debt (Baa) or negative growth.

¹ Spot Dividend Yield = D_0/P_0 . See Scchdule D.4-8

² Expected Dividend Yield = $D_1/P_0 = D_0/P_0 \cdot (1+g)$.

³ Growth rate (g). Staff work papers.

⁴ Federal Reserve. Baa investment grade bonds.

⁵ Blue Chip Financial Forecast (Dec 2009)

**TJB-RB-COC
(Phase I)**

ATTACHMENT 4

Litchfield Park Service Company
Discounted Cash Flow Analysis (Water)
Market Price

Line No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Company	2009 Projected Div	10 year Historical Average Div	Recent Price	10 year Historical Annual Price Growth	Year 5 Price	Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div + Price	Implied ROE = Internal Rate of Return (Cols 7-12)
1	1. American States	\$ 1.03	1.76%	\$ 31.94	9.72%	\$ 50.79	\$ (31.94)	\$ 1.03	\$ 1.05	\$ 1.07	\$ 1.09	\$ 51.90	12.5%
2	2. Aqua America	0.55	6.97%	15.88	9.75%	25.29	(15.88)	0.55	0.59	0.63	0.67	26.01	13.0%
3	3. California Water	1.18	0.90%	35.78	8.42%	53.59	(35.78)	1.18	1.26	1.35	1.44	55.05	11.6%
4	4. Connecticut Water	0.89	1.22%	22.80	6.28%	30.92	(22.80)	0.89	0.95	1.02	1.09	32.02	10.2%
5	5. Middlesex	0.71	1.91%	15.91	7.37%	22.70	(15.91)	0.71	0.76	0.81	0.87	23.59	11.8%
6	6. SJW Corp.	0.72	6.01%	22.18	14.89%	44.39	(22.18)	0.72	0.77	0.82	0.88	45.32	17.7%
13													
14	GROUP AVERAGE		3.13%		9.40%								12.8%
15	GROUP MEDIAN		1.84%		9.07%								12.1%

Sources:

Value Line Data November 20, 2009
Yahoo Finance Website November 20, 2009

**TJB-RB-COC
(Phase I)**

ATTACHMENT 5

**NEW
REGULATORY
FINANCE**

Roger A. Morin, PhD

**2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia**

Appendix 4-A

Arithmetic versus Geometric Means in Estimating the Cost of Capital

The use of the arithmetic mean appears counter-intuitive at first glance, because we commonly use the geometric mean return to measure the average annual achieved return over some time period. For example, the long-term performance of a portfolio is frequently assessed using the geometric mean return.

But performance appraisal is one thing, and cost of capital estimation is another matter entirely. In estimating the cost of capital, the goal is to obtain the rate of return that investors expect, that is, a target rate of return. On average, investors expect to achieve their target return. This target expected return is in effect an arithmetic average. The achieved or retrospective return is the geometric average. In statistical parlance, the arithmetic average is the unbiased measure of the expected value of repeated observations of a random variable, not the geometric mean. This appendix formally illustrates that only arithmetic averages can be used as estimates of cost of capital, and that the geometric mean is not an appropriate measure of cost of capital.

The geometric mean answers the question of what constant return you would have had to achieve in each year to have your investment growth match the return achieved by the stock market. The arithmetic mean answers the question of what growth rate is the best estimate of the future amount of money that will be produced by continually reinvesting in the stock market. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth.

While the geometric mean is the best estimate of performance over a long period of time, this does not contradict the statement that the arithmetic mean compounded over the number of years that an investment is held provides the best estimate of the ending wealth value of the investment. The reason is that an investment with uncertain returns will have a higher ending wealth value than an investment which simply earns (with certainty) its compound or geometric rate of return every year. In other words, more money, or terminal wealth, is gained by the occurrence of higher than expected returns than is lost by lower than expected returns.

In capital markets, where returns are a probability distribution, the answer that takes account of uncertainty, the arithmetic mean, is the correct one for estimating discount rates and the cost of capital.

While the geometric mean is appropriate when measuring performance over a long time period, it is incorrect when estimating a risk premium to compute the cost of capital.

TABLE 4A-1
GEOMETRIC VS. ARITHMETIC RETURNS

	Stock A	Stock B
1996	50.0%	11.61%
1997	-54.7%	11.61%
1998	98.5%	11.61%
1999	42.2%	11.61%
2000	-32.3%	11.61%
2001	-39.2%	11.61%
2002	153.2%	11.61%
2003	-10.0%	11.61%
2004	38.9%	11.61%
2005	20.0%	11.61%
Standard Deviation	64.9%	0.0%
Arithmetic Mean	26.7%	11.6%
Geometric Mean	11.6%	11.6%

Theory

The geometric mean measures the magnitude of the returns, as the investor starts with one portfolio and ends with another. It does not measure the variability of the journey, as does the arithmetic mean. The geometric mean is backward looking. There is no difference in the geometric mean of two stocks or portfolios, one of which is highly volatile and the other of which is absolutely stable. The arithmetic mean, on the other hand, is forward-looking in that it does impound the volatility of the stocks.

To illustrate, Table 4A-1 shows the historical returns of two stocks, the first one is highly volatile with a standard deviation of returns of 65% while the second one has a zero standard deviation. It makes no sense intuitively that the geometric mean is the correct measure of return, one that implies that both stocks are equally risky since they have the same geometric mean. No rational investor would consider the first stock equally as risky as the second stock. Every financial model to calculate the cost of capital recognizes that investors are risk-averse and avoid risk unless they are adequately compensated for undertaking it. It is more consistent to use the mean that fully impounds risk (arithmetic mean) than the one from which risk has been removed (geometric mean). In short, the arithmetic mean recognizes the uncertainty in the stock market while the geometric mean removes the uncertainty by smoothing over annual differences.

Empirical Evidence

If both the geometric and arithmetic mean returns over the 1926–2004 data are regressed against the standard deviation of returns for the firms in the

deciles, the arithmetic mean outperforms the geometric mean in this statistical regression. Moreover, the constant of arithmetic mean regression matches the average Treasury bond rate and therefore makes economic sense while the constant for the geometric mean matches nothing in particular. This is simply because the geometric mean is stripped of volatility information and, as a result, does a poor job of forecasting returns based on volatility.

The following illustration is frequently invoked in defense of the geometric mean. Suppose that a stock's performance over a two-year period is representative of the probability distribution, doubling in one year ($r_1 = 100\%$) and halving in the next ($r_2 = -50\%$). The stock's price ends up exactly where it started, and the geometric average annual return over the two-year period, r_g , is zero:

$$\begin{aligned} 1 + r_g &= [(1 + r_1)(1 + r_2)]^{1/2} \\ &= [(1 + 1)(1 - .50)]^{1/2} = 1 \\ r_g &= 0 \end{aligned}$$

confirming that a zero year-by-year return would have replicated the total return earned on the stock. The expected annual future rate of return on the stock is not zero, however. It is the arithmetic average of 100% and -50% , $(100 - 50)/2 = 25\%$. There are two equally likely outcomes per dollar invested: either a gain of \$1 when $r = 100\%$ or a loss of \$0.50 when $r = -50\%$. The expected profit is $(\$1 - \$0.50)/2 = \$0.25$ for a 25% expected rate of return. The profit in the good year more than offsets the loss in the bad year, despite the fact that the geometric return is zero. The arithmetic average return thus provides the best guide to expected future returns.

What Academics Have to Say

Bodie, Kane, and Marcus (2005) cite:

Which is the superior measure of investment performance, the arithmetic average or the geometric average? The geometric average has considerable appeal because it represents the constant rate of return we would have needed to earn in each year to match actual performance over some past investment period. It is an excellent measure of *past* performance. However, if our focus is on future performance, then the arithmetic average is the statistic of interest because it is an unbiased estimate of the portfolio's expected future return (assuming, of course, that the expected return does not change over time). In contrast, because the geometric return over a sample period is always less than the arithmetic mean,

it constitutes a downward-biased estimator of the stock's expected return in any future year.

Again, the arithmetic average is the better guide to future performance.

Another way of stating the Bodie, Kane, Marcus argument in favor of the arithmetic mean is that it is the best estimate of the future value of the return distribution because it represents the expected value of the distribution. It is most useful for determining the central tendency of a distribution at a particular time, that is, for cross-sectional analysis. The geometric mean, on the other hand, is best suited for measuring an investment's compound rate of return over time, that is, for time-series analysis. This is the same argument made by Ibbotson Associates (2005) where it is shown, using probability theory, that future terminal wealth is given by compounding the arithmetic mean, and not the geometric mean. In other words, if we accept the past as prologue, the best estimate of a future year's return based on a random distribution of the prior years' returns is the arithmetic average. Statistically, it is our best guess for the holding-period return in a given year.

Brigham and Ehrhardt (2005) in their widely used corporate finance text point out that the arithmetic average is more consistent with CAPM theory, as one of its key underpinning assumptions is that investors are supposed to focus, in their portfolio decisions, upon returns in the next period and the standard deviation of this return. To the extent that this next period is one year, the preference for the arithmetic mean, which derives from a set of single one year period returns, follows. It is also noteworthy that one of the crucial assumptions inherent in the CAPM is that investors are single-period expected utility of terminal wealth maximizers who choose among alternative portfolios on the basis of each portfolio's expected return and standard deviation.

Brealey, Myers, and Allen (2006) in their leading graduate textbook in corporate finance opt strongly for the arithmetic mean. The authors illustrate the distinction between arithmetic and geometric averages and conclude that arithmetic averages are appropriate when estimating the cost of capital:

The proper uses of arithmetic and compound rates of return from past investments are often misunderstood. Therefore, we call a brief time-out for a clarifying example.

Suppose that the price of Big Oil's common stock is \$100. There is an equal chance that at the end of the year the stock will be worth \$90, \$110, or \$130. Therefore, the return could be -10 percent, +10 percent or +30 percent (we assume that Big Oil does not pay a dividend). The expected return is $1/3(-10 + 10 + 30) = +10$ percent.

If we run the process in reverse and discount the expected cash flow by the expected rate of return, we obtain the value of Big Oil's stock:

$$PV = \frac{110}{1.10} = \$100$$

The expected return of 10 percent is therefore the correct rate at which to discount the expected cash flow from Big Oil's stock. It is also the opportunity cost of capital for investments which have the same degree of risk as Big Oil.

Now suppose that we observe the returns on Big Oil stock over a large number of years. If the odds are unchanged, the return will be -10 percent in a third of the years, +10 percent in a further third, and +30 percent in the remaining years. The arithmetic average of these yearly returns is

$$\frac{-10 + 10 + 30}{3} = +10\%$$

Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments of similar risk to Big Oil stock.

The average compound annual return on Big Oil stock would be

$$(.9 \times 1.1 \times 1.3)^{1/3} - 1 = .088, \text{ or } 8.8\%$$

less than the opportunity cost of capital. Investors would not be willing to invest in a project that offered an 8.8 percent expected return if they could get an expected return of 10 percent in the capital markets. The net present value of such a project would be

$$NPV = -100 + \frac{108.8}{1.1} = -1.1$$

Moral: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return (geometric averages).

(Richard A. Brealey, Stewart C. Myers, and Paul Allen, *Principles of Corporate Finance*, 8th Edition, Irwin McGraw-Hill, 2006, page 156-7.)

The widely cited Ibbotson Associates publication also contains a detailed and rigorous discussion of the impropriety of using geometric averages in estimating the cost of capital.¹²

¹² Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, 2005 Yearbook, Valuation Edition*, page 75.

The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.

The argument for using the arithmetic average is quite straightforward. In looking at projected cash flows, the equity risk premium that should be employed is the equity risk premium that is expected to actually be incurred over the future time periods.

The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean) of its past values.

In their widely publicized research on the market risk premium, Dimson, Marsh and Staunton (2002) state

The arithmetic mean of a sequence of different returns is always larger than the geometric mean. To see this, consider equally likely returns of +25 and -20 percent. Their arithmetic mean is $2\frac{1}{2}$ percent, since $(25 - 20)/2 = 2\frac{1}{2}$. Their geometric mean is zero, since $(1 + 25/100) \times (1 - 20/100) - 1 = 0$. But which mean is the right one for discounting risky expected future cash flows? For forward-looking decisions, the arithmetic mean is the appropriate measure.

To verify that the arithmetic mean is the correct choice, we can use the $2\frac{1}{2}$ percent required return to value the investment we just described. A \$1 stake would offer equal probabilities of receiving back \$1.25 or \$0.80. To value this, we discount the cash flows at the arithmetic mean rate of $2\frac{1}{2}$ percent. The present values are respectively $\$1.25/1.015 = \1.22 and $\$0.80/1.025 = \0.78 , each with equal probability, so the value is $\$1.22 \times \frac{1}{2} + \$0.80 \times \frac{1}{2} = \1.00 . If there were a sequence of equally likely returns of +25 and -20 percent, the geometric mean return will eventually converge on zero. The $2\frac{1}{2}$ percent forward-looking arithmetic mean is required to compensate for the year-to-year volatility of returns.

Lastly, on the practical side, Bruner, Eades, Harris, and Higgins (1998) found that 71% of the texts and tradebooks in their extensive survey of practice supported use of an arithmetic mean for estimation of the cost of equity.

Mean Reversion Argument

Some academics have argued that if stock returns were expected to revert to a trend, this would suggest the use of a geometric mean since the geometric mean is, by definition, an estimate of a smoothed long-run trend increment. These same academics have argued that the historical estimate of the market risk premium ("MRP") is upward-biased by the buoyant performance of the stock market prior to 2002, and because of the extraordinary and unusually high realized MRPs in those years, investors expect a return to lower MRPs in the future, bringing the average MPR to a more "normal" level.

The presence or absence of mean reversion is an empirical issue. The empirical findings are weak and highly contradictory; the empirical evidence is inconclusive and unconvincing, certainly not enough to support the "mean reversion" hypothesis. The weight of the empirical evidence on this issue is that the more sophisticated tests of mean reversion in the MRP demonstrate that the realized MRP over the last 75 years or so was almost perfectly free of mean reversion, and had no statistically identifiable time trend. It is also noteworthy that most of these studies were performed prior to the stock market's debacle in 2000–2002, years of extraordinary and unusually low realized MRPs. The stock market's dismal performance of 2000–2002 has certainly taken the wind out of the mean reversion school's sails.

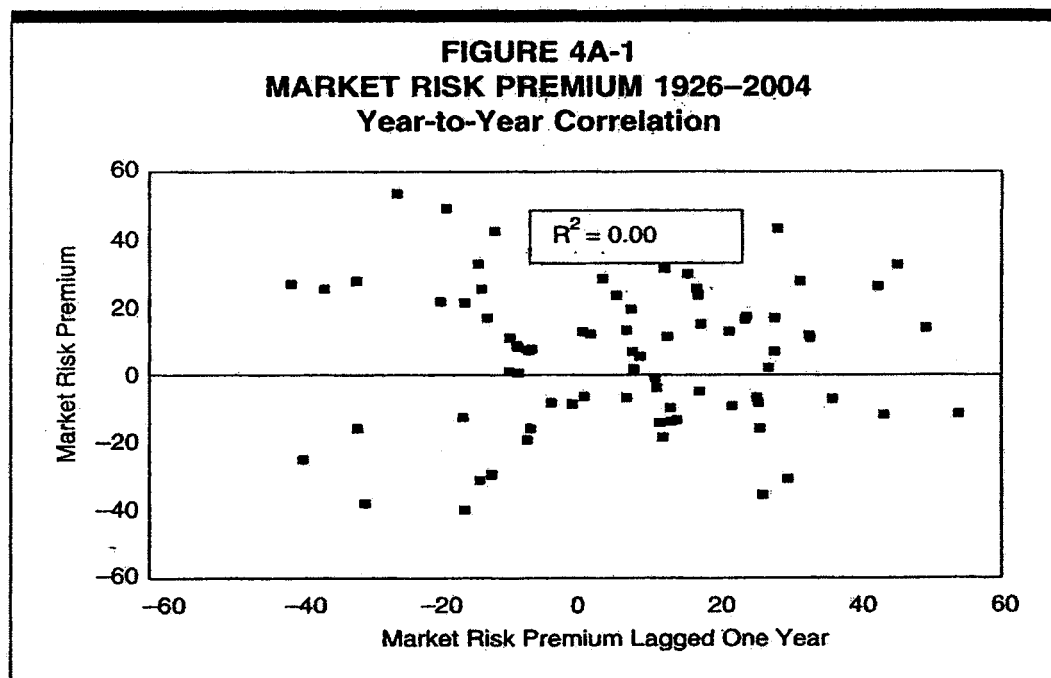
An examination of historical MRPs reveals that the MRP is random with no observable pattern. To the extent that the estimated historical equity risk premium follows what is known in statistics as a random walk, one should expect the equity risk premium to remain at its historical mean. Therefore, the best estimate of the future risk premium is the historical mean.

Ibbotson Associates (2005) find no evidence that the market price of risk or the amount of risk in common stocks has changed over time:

Our own empirical evidence suggests that the yearly difference between the stock market total return and the U.S. Treasury bond income return in any particular year is random . . . there is no discernable pattern in the realized equity risk premium. (Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, 2005 Yearbook, Valuation Edition*, pages 74–75)

In statistical parlance, there is no significant serial correlation in successive annual market risk premiums, that is, no trend. Ibbotson Associates go on to state that it is reasonable to assume that these quantities will remain stable in the future (*Id.*):

The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean)



of its past values. (Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, 2004 Yearbook, Valuation Edition*, page 75)

Nowhere is it suggested by Ibbotson Associates that the market risk premium has declined over time.

Because there is little evidence that the MRP has changed over time, it is reasonable to assume that these quantities will remain stable in the future. Figure 4A-1 shows the relationship, or the lack of relationship, between year-to-year MRPs reported in the Ibbotson Associates Valuation Yearbook, 2005 edition, for the 1926–2004 period. The relationship is virtually absent, as indicated by the low R^2 of zero between successive MRPs. In other words, there is no history in successive MRPs as indicated by the zero serial correlation coefficient.

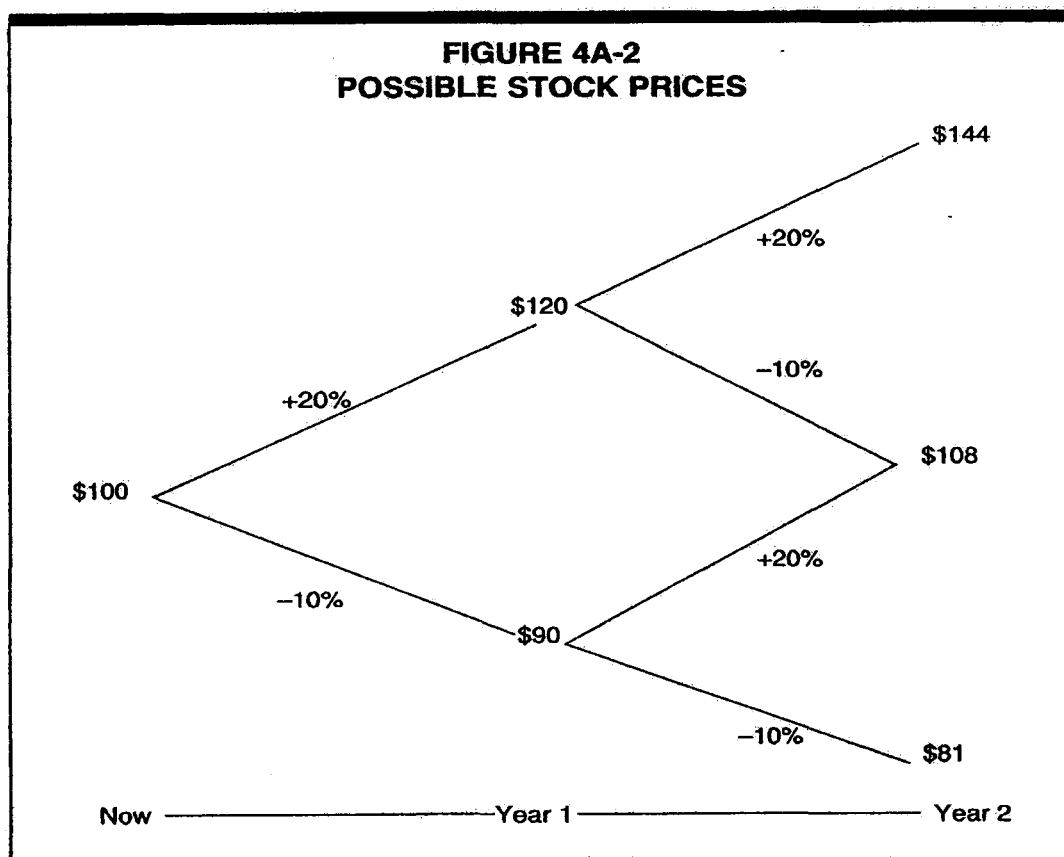
In short, the determination of the cost of capital with the CAPM requires an unbiased estimate of the expected annual return. The expected arithmetic return provides the appropriate measure for this purpose.

Formal Demonstration

This section shows why arithmetic rather than geometric means should be used for forecasting, discounting, and estimating the cost of capital.¹³ By

¹³ This section is adapted from a similar treatments and demonstration in Brealey, Myers, and Allen (2006) and Ibbotson Associates (2005).

FIGURE 4A-2
POSSIBLE STOCK PRICES



definition, the cost of equity capital is the annual discount rate that equates the discounted value of expected future cash flows (from dividends and the sale of the stock at the end of the investor's investment horizon) to the current market price of a share in the firm. The discount rate that equates the discounted value of future expected dividends and the end of period expected stock price to the current stock price is a prospective arithmetic, rather than a prospective geometric, mean rate of return. Since future dividends and stock prices cannot be predicted with certainty, the "expected" annual rate of return that investors require is an average "target" percentage rate around which the actual, year-by-year returns will vary. This target rate is, in effect, an arithmetic average.

A numerical illustration will clarify this important point. Consider a non-dividend paying stock trading for \$100 which has, in every year, an equal chance of appreciating by 20% or declining by 10%. Thus, after one year, there is an equal chance that the stock's price will be \$120 and an equal chance the price will be \$90. Figure 4A-2 presents all possible eventualities after two periods have elapsed (the rates of return are presented at the end of the lines in the diagram).

The possible stock prices are shown in the following table.

TABLE 4A-2 STOCK PRICES AFTER TWO PERIODS	
Price	Chance
\$144	1 chance in 4
\$108	2 chances in 4
\$ 81	1 chance in 4

The expected future stock price after two periods is then:

$$1/4 (\$144) + 2/4 (\$108) + 1/4 (\$81) = \$110.25$$

The cost of equity capital is calculated as the discount rate that equates the present value of the future expected cash flows to the current stock price. In the present simple example, the only cash flow is the gain from selling the stock after two periods have elapsed. Thus, using the expected stock price of \$110.25 calculated above, the expected rate of return is that r , which solves the following equation:

$$\text{Current Stock Price} = \frac{\text{Expected Stock Price}}{(1 + r)^2}$$

The factor $(1 + r)^2$ discounts the expected stock price to the present. Substituting the numerical values, we have:

$$\begin{aligned} \$100 &= \frac{\$110.25}{(1 + r)^2} \\ r &= 5\% \end{aligned}$$

Thus, the cost of equity capital is 5%. This 5% cost of equity capital is equal to the prospective arithmetic mean rate of return, which is the probability-weighted average single period rate of return on equity. Since in every period there is an equal chance that the stock's return will be 20% or -10%, the probability-weighted average is:

$$1/2 (20\%) + 1/2 (-10\%) = 5\%$$

However, the 5% cost of equity capital is not equal to the prospective geometric mean rate of return, which is a probability-weighted average of the possible compounded rates of return over the two periods. Now consider the prospective geometric mean rate of return. Table 4A-3 shows the possible compounded rates of return over two periods, and the probability of each.

Thus, the prospective geometric mean rate of return is:

$$1/4 (20\%) + 2/4 (3.92\%) + 1/4 (-10\%) = 4.46\%$$

TABLE 4A-3
STOCK PRICES AND RETURNS AFTER TWO PERIODS

Price	Chance	Compounded Return
\$144	1 chance in 4	20.00%
\$108	2 chances in 4	3.92%
\$ 81	1 chance in 4	-10.00%

This return is not equal to the 5% cost of equity capital.

The example can easily be extended to include the case of a dividend-paying company and will reach the same conclusion: the implied discount rate calculated in the DCF model is an expected arithmetic rather than an expected geometric mean rate of return.

The foregoing analysis shows that it is erroneous to use a prospective multi-year geometric mean rate of return as a "target" rate of return for each year of the period. If, for example, investors currently require an expected future rate of return on an investment of 13% each year, then 13% is the appropriate annual rate of return on equity for ratemaking purposes. Consequently, in using a risk premium approach for the purposes of rate of return regulation, the single-year annual required rate of return should be estimated using arithmetic mean risk premiums.

It should be pointed out that the use of the arithmetic mean does not imply an investment holding period of one year. Rather, it is premised on the uncertainty with respect to each year's return during the holding period, however many years that may be. When computing the arithmetic average of historic annual returns in order to calculate the average return (expected value of the return), every achieved return outcome is one possible future outcome for each year the security will be held. Each historic return has an equal probability of occurring during each year of the holding period. The resulting expected value of the risk premium is the arithmetic average of all of the past premiums considered, regardless of the length of the expected holding period.

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5
6 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7 IN THE MATTER OF THE APPLICATION
OF LITCHFIELD PARK SERVICE
8 COMPANY, AN ARIZONA
CORPORATION, FOR A
9 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
10 PROPERTY AND FOR INCREASES IN
ITS WASTEWATER RATES AND
11 CHARGES FOR UTILITY SERVICE
BASED THEREON.

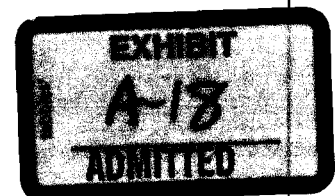
DOCKET NO: SW-01428A-09-0103

12 IN THE MATTER OF THE APPLICATION
13 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
14 CORPORATION, FOR A
DETERMINATION OF THE FAIR VALUE
15 OF ITS UTILITY PLANTS AND
PROPERTY AND FOR INCREASES IN
16 ITS WATER RATES AND CHARGES FOR
UTILITY SERVICE BASED THEREON.

DOCKET NO: W-01427A-09-0104

17 IN THE MATTER OF THE APPLICATION
18 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
19 CORPORATION, FOR AUTHORITY (1)
TO ISSUE EVIDENCE OF
20 INDEBTEDNESS IN AN AMOUNT NOT
TO EXCEED \$1,755,000 IN
21 CONNECTION WITH (A) THE
CONSTRUCTION OF TWO RECHARGE
22 WELL INFRASTRUCTURE
IMPROVEMENTS AND (2) TO
23 ENCUMBER ITS REAL PROPERTY AND
PLANT AS SECURITY FOR SUCH
24 INDEBTEDNESS.

DOCKET NO. W-01427A-09-0116



1 IN THE MATTER OF THE APPLICATION
2 OF LITCHFIELD PARK SERVICE
3 COMPANY, AN ARIZONA
4 CORPORATION, FOR AUTHORITY
5 (1) TO ISSUE EVIDENCE OF
6 INDEBTEDNESS IN AN AMOUNT NOT
7 TO EXCEED \$1,170,000 IN
8 CONNECTION WITH (A) THE
9 CONSTRUCTION OF ONE 200 KW ROOF
10 MOUNTED SOLAR GENERATOR
11 INFRASTRUCTURE IMPROVEMENTS
12 AND (2) TO ENCUMBER ITS REAL
13 PROPERTY AND PLANT AS SECURITY
14 FOR SUCH INDEBTEDNESS.

DOCKET NO. W-01427A-09-0120

12 **REJOINDER TESTIMONY**

13 **of**

14 **THOMAS J. BOURASSA**

15 **on**

16 **RATE BASE, INCOME STATEMENT AND RATE DESIGN**

17 **(Phase 1 – Determination of Rate Base and Rates)**

18 **December 29, 2009**

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

6 A. On behalf of the applicant, Litchfield Park Service Company ("LPSCO" or the
7 "Company").

8 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THE INSTANT**
9 **CASE?**

10 A. Yes, my direct testimony was submitted in support of the initial application in this
11 docket. There were two volumes, one addressing rate base, income statement and
12 rate design, and the other addressing cost of capital. My rebuttal testimony was
13 also submitted in two separate volumes. Each of those testimonies included my
14 associated schedules.

15 **Q. WHAT IS THE PURPOSE OF THIS REJOINDER TESTIMONY?**

16 A. I will provide rejoinder testimony in response to the surrebuttal filings by Staff and
17 RUCO. More specifically, this first volume of my rejoinder testimony relates to
18 rate base, income statement and rate design for LPSCO. I will also address the
19 testimony by the City of Litchfield Park ("City"). In a second, separate volume of
20 my testimony, I will also provide responses to Staff and RUCO on the cost of
21 capital and rate of return applied to the fair value rate base, and the determination
22 of operating income. None of the other parties has addressed cost of capital in its
23 testimony.

24

25

26

1 **II. SUMMARY OF LPSCO'S REJOINDER POSITION**

2 **Q. WHAT ARE THE REVENUE INCREASES FOR THE WATER AND**
3 **WASTEWATER DIVISIONS THAT THE COMPANY IS PROPOSING IN**
4 **THIS REJOINDER TESTIMONY?**

5 A. For the water division the Company is proposing a total revenue requirement of
6 \$13,707,268, which constitutes an increase in revenues of \$6,828,558, or 99.27%
7 over adjusted test year revenues. For the wastewater division, the Company is
8 proposing a total revenue requirement of \$11,183,500 which constitutes an increase
9 in revenues of \$4,827,126, or 75.94% over adjusted test year revenues.

10 **Q. HOW DO THESE COMPARE WITH THE COMPANY'S REBUTTAL**
11 **FILING?**

12 A. They are both higher. In the rebuttal filing for the water division, the Company
13 requested a total revenue requirement of \$13,637,738, which required an increase
14 in revenues of \$6,759,028, or 98.26%. In the rebuttal filing for the wastewater
15 division, the Company requested a total revenue requirement of \$11,132,993,
16 which required an increase in revenues of \$4,776,618, or 75.15%.

17 **Q. WHY IS THE REQUESTED REVENUE INCREASE HIGHER IN LPSCO'S**
18 **REJOINDER FILING FOR BOTH DIVISIONS?**

19 A. In its rejoinder filing, LPSCO has updated its deferred income tax ("DIT")
20 computation. The DIT liability balance is now lower. The update to DIT results in
21 higher rate bases for both divisions and the higher revenue increases for both
22 divisions are a direct result of the higher rate bases. I will discuss the updated DIT
23 computation later in my testimony.

24 **Q. HAS THE COMPANY MODIFIED ANY OF ITS RATE BASE**
25 **RECOMMENDATIONS BASED ON THE SURREBUTTAL TESTIMONIES**
26 **OF THE OTHER PARTIES?**

1 A. With the exception for a small correction to the sewer division rate base, no. I will
2 discuss this correction later in my testimony. As you will recall, in the Company's
3 rebuttal filing the Company adopted a number of adjustments recommended by
4 Staff and/or RUCO, as well as proposed a number of adjustments of its own based
5 on known and measurable changes to the test year. As a result, LPSCO, Staff, and
6 RUCO are now in agreement on a number of issues. I will discuss the remaining
7 differences between the parties, but from a numbers perspective, the biggest issues
8 are RUCO's adjustment to capitalized affiliate labor, RUCO's \$3.5 million
9 adjustment to rate base and Staff and RUCO's adjustment to the Central Cost
10 Allocation. In addition, the other parties' rate designs raise significant concerns.

11 **Q. WHAT ARE THE PROPOSED REVENUE REQUIREMENTS AND RATE**
12 **INCREASES FOR THE COMPANY, STAFF, AND RUCO AT THIS STAGE**
13 **OF THE PROCEEDING?**

14 A. For the water division, the proposed revenue requirements and proposed rate
15 increases are as follows:

	<u>Revenue Requirement</u>	<u>Revenue Incr.</u>	<u>% Increase</u>
17 Company-Rebuttal	\$13,637,738	\$7,759,028	98.26%
18 Staff - Surrebuttal	\$11,781,312	\$4,902,602	71.27%
19 RUCO - Surrebuttal	\$11,555,325	\$4,676,615	67.99%
20 Company Rejoinder	\$13,691,231	\$6,812,522	99.04%

21 For the wastewater division, the proposed revenue requirements and
22 proposed rate increases are as follows:

	<u>Revenue Requirement</u>	<u>Revenue Incr.</u>	<u>% Increase</u>
24 Company-Rebuttal	\$11,132,993	\$4,776,618	75.15%
25 Staff - Surrebuttal	\$ 9,398,625	\$3,042,251	47.86%
26 RUCO - Surrebuttal	\$ 8,741,497	\$2,382,310	37.46%

1 Company Rejoinder \$11,171,515 \$4,815,141 75.75%

2 **III. RATE BASE**

3 **A. Water Division Rate Base**

4 **Q. WOULD YOU PLEASE IDENTIFY THE PARTIES' RESPECTIVE RATE**
5 **BASE RECOMMENDATIONS FOR THE WATER DIVISION?**

6 A. Yes, for the water division the rate bases proposed by the parties proposing a rate
7 base in the case, the Company, Staff and RUCO, are as follows:

	<u>OCRB</u>	<u>FVRB</u>
Company-Rebuttal	\$37,502,569	\$37,502,569
Staff – Surrebuttal	\$37,174,137	\$37,174,137
RUCO - Surrebuttal	\$36,946,801	\$36,946,801
Company Rejoinder	\$37,762,676	\$37,762,676

13 None of the other parties has made a specific proposal regarding rate base,
14 revenues or expenses.

15 **1. Plant-in-service.**

16 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S PROPOSED**
17 **ORIGINAL COST RATE BASE FOR THE WATER DIVISION, AND**
18 **IDENTIFY ANY ADDITIONAL ADJUSTMENTS YOU HAVE ACCEPTED**
19 **FROM STAFF AND/OR RUCO?**

20 A. The Company's rejoinder rate base adjustments to the water division OCRB are
21 detailed on rejoinder schedules B-2, pages 3 through 6. Rejoinder Schedule B-2,
22 page 1 and 2, summarize the Company's proposed adjustments and the rejoinder
23 OCRB. I have previously discussed the Company's proposed plant-in-service
24 ("PIS") adjustments and will not repeat them here.¹ The Company is not proposing

25 ¹ Rebuttal Testimony of Thomas J. Bourassa (Rate Base, Income Statement and Rate Design - Phase I
26 Determination of Rate Base and Rates) ("Bourassa Rb.") at 6-8.

1 any changes to its previously proposed adjustments; nor is it recommending any
2 additional adjustments to rate base at this stage of the proceeding.

3 **Q. WHAT ARE THE REMAINING DIFFERENCES BETWEEN STAFF,**
4 **RUCO AND THE COMPANY FOR CAPITALIZED EXPENSES?**

5 A. RUCO proposes to capitalize expenses totaling \$19,989.² The detail of RUCO's
6 capitalized expense can be found in RUCO's operating income adjustment number
7 4a.³ The Company and RUCO are now in full agreement as to the amount of
8 capitalized test year expenses.⁴

9 Staff agrees that amounts related to clocks for well site of \$1,114 and a
10 distribution system evaluation of \$8,600 should be capitalized.⁵ Additionally,
11 however, the Company proposes to capitalize a well spacing evaluation of \$1,380,
12 well rehabilitation costs of \$4,072, and a well impact analysis of \$4,823 for which
13 Staff disagrees. It is unclear why Staff disagrees with the Company proposed
14 additional capitalized expenses as Staff has not provided an explanation.

15 **Q. ARE STAFF AND RUCO NOW IN AGREEMENT WITH THE COMPANY**
16 **ON THE ADDITION OF \$21,000 OF ORGANIZATIONAL COSTS?**

17 A. Yes.⁶ The \$21,000 is for organization costs approved in the last decision and was
18 proposed by RUCO in its direct filing.⁷

19
20
21 ² See Surrebuttal testimony of Sonn S. Rowell ("S Rowell Sb.") at 5; RUCO Water Surrebuttal Schedule 3,
page 4 of 4, Adjustment Number 23.

22 ³ See RUCO Water Surrebuttal Schedule 4, page 3 of 9, Adjustment Number 4a.

23 ⁴ See Company Water Rejoinder Schedule B-2, page 3.3.

24 ⁵ See Staff Surrebuttal Schedule JMM-W-7; Surrebuttal Testimony of Jeffrey M. Michlik for Water
Division ("Michlik W Sb.") at 4.

25 ⁶ See RUCO Water Surrebuttal Schedule 3, page 2 of 4, Adjustment Number 16; Staff Surrebuttal
Schedule JMM-W7; Company Water Rejoinder Schedule B-2, page 3.

26 ⁷ See Direct Testimony of Sonn S. Rowell ("S Rowell Dt.") at 6.

1 Q. ARE STAFF AND RUCO NOW IN AGREEMENT WITH THE COMPANY
2 ON THE REMOVAL OF \$7,072 OF OFFICE RENT FROM PLANT-IN-
3 SERVICE?

4 A. Yes.⁸

5 Q. DOES THE COMPANY CONTINUE TO DISAGREE WITH RUCO ON
6 THE REMOVAL CAPITALIZED REPAIRS FROM PLANT-IN-SERVICE?

7 A. Yes. RUCO asserts that several repair invoices should be expensed rather than
8 capitalized. These invoices include \$8,700 of 2001 repairs (two \$3,000 invoices
9 and one \$2,700 invoice)⁹, \$4,170 of 2002 repairs (two invoices from Yahweh
10 Contracting for \$2,085)¹⁰, \$1,391 of 2004 repairs (one invoice from Pyramid West
11 Contracting for \$1391)¹¹, \$26,648 of 2005 repairs (several invoices from Ram
12 Pipelines totaling \$26,648)¹², and \$3,227 of 2006 repairs (one invoice from
13 Yahweh Contracting for \$2,450 and one invoice from Ram pipelines for \$777)¹³,
14 and \$400 of 2003 repairs (one invoice from MS Hernandez Contracting).¹⁴ As I
15 have testified, repairs that extend the life of plant and/or provide benefits of more
16 than one year should be capitalized.¹⁵ The costs associated with the work on these
17 invoices meet those criteria.

18 Q. HAS STAFF PROPOSED A SIMILAR ADJUSTMENT?

19 A. No.

20 ⁸ See RUCO Water Surrebuttal Schedule 3, page 2 of 4, Adjustment Number 1; Staff Surrebuttal Schedule
21 JMM-W7; Company Water Rejoinder Schedule B-2, page 3.

22 ⁹ S Rowell Dt. at 6; RUCO Water Surrebuttal Schedule 3, page 3 of 4, Adjustment Number 15.

23 ¹⁰ See RUCO Water Surrebuttal Schedule 3, page 3 of 4, Adjustment Number 16.

24 ¹¹ See RUCO Water Surrebuttal Schedule 3, page 4 of 4, Adjustment Number 18.

25 ¹² See RUCO Water Surrebuttal Schedule 3, page 4 of 4, Adjustment Number 19.

26 ¹³ See RUCO Water Surrebuttal Schedule 3, page 4 of 4, Adjustment Number 20.

¹⁴ See RUCO Water Surrebuttal Schedule 3, page 4 of 4, Adjustment Number 22.

¹⁵ Bourassa Rb. at 17.

1 **Q. PLEASE COMMENT ON RUCO'S PROPOSAL TO REMOVE COSTS FOR**
2 **UNSUPPORTED PLANT.**

3 A. RUCO proposes to remove \$242,119 from Structures and Improvements,
4 supposedly due to a lack of documentation for a 2004 journal entry and \$7,020 for
5 an unsupported amount from Pyramid West.¹⁶ RUCO also proposes to remove
6 \$96,170 for Land and Land Rights.¹⁷ I have examined the supporting detail for the
7 2004 journal entry of \$242,119 that was provided to the parties in data response
8 JMM 1.52 and it is complete.¹⁸ As such, it is difficult to understand RUCO's
9 position on this item.

10 I have also examined the documentation for the \$7,019.58 amount for
11 Pyramid West. I find that the general ledger entries and payment information
12 reflect the \$7,019.58 amount, and that the amount is consistent with other entries
13 for Pyramid West, an amount no party argues is unreasonable. There is no basis to
14 remove it under those circumstances.¹⁹

15 Finally, I reviewed the documentation for the \$96,170 RUCO proposes to
16 remove from Land and Land Rights. The \$96,170 is made up of \$27,040 of
17 Algonquin affiliate labor, \$40,013 of New Spring affiliate labor, \$9,000 of rent,
18 and \$20,117 of accruals. I find that the affiliate labor costs are related to
19 permitting and engineering, the rent was to be applied to the purchase price of the
20 land, and the accruals (supported by invoices) are for affiliate labor and non-
21 affiliate services related to permitting and engineering. The Company believes
22 these are legitimate costs related to land and land rights and I agree.

23 ¹⁶ See RUCO Water Surrebuttal Schedule 3, page 3 of 4, Adjustment Number 18.

24 ¹⁷ See RUCO Water Surrebuttal Schedule 3, page 2 of 4, Adjustment Number 8.

25 ¹⁸ See Company response to Staff data request JMM 1.52, attached hereto as **Exhibit TJB-RJ1**.

26 ¹⁹ An invoice in the amount of roughly \$4100 could not be located, however, the other indicia of cost are more than adequate, especially given that no party argues the costs are unreasonable.

1 Q. DOES RUCO CONTINUE TO PROPOSE TO EXCLUDE ALL
2 CAPITALIZED AFFILIATE LABOR?

3 A. Yes.²⁰ The Company continues to disagree with RUCO's proposal. I have
4 previously testified to the Company's position on this issue and will not repeat that
5 testimony here.²¹

6 Q. PLEASE RESPOND THE MS. ROWELL'S COMMENT THAT A WORK
7 PAPER FILE ON AFFILIATE LABOR WITH OUT BACK-UP
8 INFORMATION IS NOT PROPER ACCOUNTING?

9 A. Frankly, I am a bit perplexed. The information contained in the work paper file
10 came from the Company's payroll and job costing system and included the date,
11 employee name, hours, rate, project and job number, project name, and NARUC
12 account. The detail comprised over 14,000 records. The Company did not provide
13 any additional information because of the voluminous nature of the transactions.
14 But, more importantly, RUCO never asked for additional information.

15 Q. DOES STAFF PROPOSE A SIMILAR ADJUSTMENT TO REMOVE
16 AFFILIATE LABOR?

17 A. No.

18 2. Accumulated Depreciation.

19 Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO ACCUMULATED
20 DEPRECIATION.

21 A. Rebuttal B-2 adjustment 2, as summarized on Rebuttal Schedule B-2, page 2,
22 consists of three adjustments labeled as "A," "B," and "C" on Rebuttal Schedule B-
23 2, page 4. I have previously discussed the Company's proposed accumulated
24

25 ²⁰ S Rowell Sb. at 6; RUCO Water Surrebuttal Schedule 3, page 3 of 4, Adjustment Numbers 10-14.

26 ²¹ Bourassa Rb. at 13-15.

1 depreciation adjustments and will not repeat them here.²² The Company is not
2 proposing any changes to its previously proposed adjustments, nor is it
3 recommending any additional adjustments at this stage of the proceeding.

4 **Q. DOES STAFF NOW TREAT THE REMOVAL OF THE BOOSTER**
5 **STATION AS A RETIREMENT?**

6 A. Yes.²³ All the parties agree to remove \$78,879 of accumulated depreciation for the
7 booster station retirement.²⁴

8 **Q. PLEASE EXPLAIN THE REMAINING DIFFERENCES BETWEEN THE**
9 **PARITIES WITH RESPECT TO ACCUMULATED DEPRECIATION.**

10 A. The remaining differences between the parties with respect to accumulated
11 depreciation are primarily due to differences in the PIS adjustments discussed
12 previously.

13 **3. Deferred Income Taxes (DIT)**

14 **Q. HAS THE COMPANY PROPOSED A REJOINDER ADJUSTMENT TO**
15 **DEFERRED INCOME TAXES FOR THE WATER DIVISION?**

16 A. Yes. In rejoinder B-2 adjustment 3, as shown on Schedule B-2, page 2, the
17 Company's DIT liability is decreased by \$78,421 to \$188,053. The Company
18 proposed DIT reflects the Company's rejoinder proposed changes to PIS,
19 accumulated depreciation, AIAC and CIAC. The details of the Company's
20 rejoinder proposed DIT adjustment is shown on Rejoinder Schedule B-2, page 5.
21 As in the rebuttal filing, the rejoinder computation of DIT starts with the tax value
22

23 ²² Bourassa Rb. at 8-9.

24 ²³ Michlik W Sb. at 4; Staff Surrebuttal Schedule JMM-W8.

25 ²⁴ See RUCO Water Surrebuttal Schedule 2, page 2 of 4. Line 19 reflects a previously recorded retirement
26 of \$6,100 plus the \$78,879 for the booster station. The total accumulated depreciation reduction as shown
is \$84,979 (\$6,100 plus \$78,979); Company Water Rejoinder Schedule B-2, page 3.

1 at December 31, 2008 and is adjusted to reflect the tax value of PIS at September
2 30, 2008.

3 **Q. HAVE YOU UPDATED THE APPROACH TO ESTIMATING THE TAX**
4 **VALUE OF ASSETS AT THE END OF THE TEST YEAR FROM THE**
5 **REBUTTAL FILING?**

6 A. Yes. My rebuttal computation was incomplete.²⁵ In particular, I neglected to
7 incorporate prior year tax depreciation and reflect the Company's proposed
8 changes to PIS in the instant case, including adjustments for capitalized expenses
9 and the removal of affiliate profit. I also identified the book versus tax differences
10 for PIS through the end of the test year taking into consideration recorded AIAC
11 and CIAC.

12 **Q. HAVE STAFF OR RUCO PROPOSED CHANGES TO THE COMPANY'S**
13 **DEFERRED INCOME TAXES?**

14 A. Staff adopted the Company's proposed rebuttal DIT of \$448,160, but has not had
15 an opportunity to review the Company's rejoinder computation.²⁶ For this reason,
16 Mr. Michlik testifies that while Staff agrees with the Company's methodology,
17 Staff is still reviewing the DIT computation.²⁷

18 RUCO prepared a DIT computation of its own totaling \$446,540.²⁸
19 However, RUCO computation is seriously flawed in several respects. First, RUCO
20 computes deferred income taxes through December 31, 2006, rather than through
21 the end of the test year (September 30, 2008). Second, RUCO does not adjust the
22 tax value for its proposed adjustments to PIS. Third, RUCO does not identify all

23
24 ²⁵ See Company Water Rebuttal Schedule B-2, page 5.

25 ²⁶ Staff Surrebuttal Schedule JMM-W10.

26 ²⁷ Michlik W Sb. at 6.

²⁸ S Rowell Sb. at 4; RUCO Water Surrebuttal Schedule 2, pages 1-4.

1 differences between the tax and book basis of PIS as the Company's computation
2 does. Finally, RUCO does not account for bonus depreciation nor does RUCO
3 recognize any future tax benefits from bonus depreciation.

4 **Q. WHY IS THERE A FUTURE TAX BENEFIT FROM BONUS**
5 **DEPRECIATION?**

6 A. The bonus depreciation deduction results in a tax loss for the test year. In other
7 words, there was no ability to take full advantage of the bonus depreciation
8 deduction for tax purposes (the bonus depreciation exceeded taxable income before
9 depreciation for the test year). The tax loss will provide future tax benefits as an
10 offset to future taxable income and accordingly results in a DIT asset. The tax
11 benefits from the unused bonus depreciation can be accounted for in the DIT
12 computation by either recognizing the tax benefit as a separate component of DIT
13 (as is shown in the Company's DIT computation as a tax asset²⁹) or by adding back
14 the unused bonus depreciation to the tax value of PIS, which will lower the DIT
15 liability component of the computation. Either way, the net DIT will be the same.

16 **Q. IS THE RECOGNITION OF FUTURE TAX BENEFITS FROM TAX**
17 **LOSSES IN CONFORMANCE WITH THE STATEMENT OF FINANCIAL**
18 **ACCOUNTING STANDARDS NUMBER 109?**

19 A. Yes.

20 **4. Advances-in-aid of Construction (AIAC) and Contributions-in-**
21 **aid of Construction (CIAC).**

22 **Q. DO THE PARTIES NOW AGREE TO AIAC AND CIAC RELATED TO**
23 **THE BOOSTER STATION RETIREMENT?**
24
25

26 ²⁹ See Company Water Rejoinder Schedule B-2, page 5.

1 A. Yes. The Company proposes a decrease to AIAC of \$8,677 and a decrease to
2 CIAC of \$7,888.³⁰ Staff and RUCO propose similar adjustments.³¹

3 **5. Reclassification of AIAC to Customer Meter Deposits.**

4 **Q. PLEASE DISCUSS RUCO AND STAFF'S RECOMMENDED**
5 **RECLASSIFICATION OF AIAC TO CUSTOMER METER DEPOSITS?**

6 A. In the Company's rebuttal testimony, the Company proposes a decrease to AIAC
7 of \$2,238,022 and an increase to Customer Meter Deposits of \$2,238,022.³² Staff
8 now agrees to reclassify the AIAC to Customer Meter Deposits.³³ RUCO has not
9 adopted this reclassification. However, while RUCO has not adopted this
10 adjustment, RUCO's total deduction to rate base for AIAC and Customer Meter
11 Deposits is the same as the Company's.

12 **6. Removal of Security Deposits.**

13 **Q. DO STAFF AND RUCO REMOVE SECURITY DEPOSITS FROM**
14 **CUSTOMER METER DEPOSITS AS PROPOSED BY THE COMPANY?**

15 A. RUCO agrees to remove security deposits.³⁴ Staff does not remove security
16 deposits.³⁵

17 **Q. WHY?**

18 A. Staff asserts that security deposits are similar in nature to AIAC.³⁶ However,
19 unlike AIAC, there are no corresponding PIS in rate base matching the security
20 deposit amounts. Staff also asserts that the deposits are available for the Company

21 ³⁰ Bourassa Rb. at 11.

22 ³¹ S Rowell Sb. at 4; Staff Surrebuttal Schedule JMM-W6.

23 ³² Bourassa Rb. at 12.

24 ³³ Michlik W Sb. at 5.

25 ³⁴ S Rowell Sb. at 4.

26 ³⁵ Michlik W Sb. at 5.

³⁶ Michlik W Sb. at 5.

1 to use in support of its rate base. This does not make sense. As I have stated, there
2 is no corresponding PIS in rate base. Further, the Company pays interest on
3 security deposits. So, not only does the rate base deduction for security deposits
4 reduce the Company's earnings (return), the Company earnings get further eroded
5 by having to pay interest. Staff's proposal to include security deposits in rate base
6 should be rejected.³⁷

7 **Q. HAS STAFF PROPOSED INTEREST EXPENSE IN OPERATING**
8 **EXPENSES?**

9 A. No.

10 **7. Debt Issuance Costs.**

11 **Q. DOES RUCO NOW AGREE TO REMOVE DEBT ISSUANCE COSTS**
12 **FROM RATE BASE?**

13 A. Yes.³⁸ The Company agreed with Staff's adjustment and proposed to remove the
14 debt issuance costs in the Company's rebuttal filing.³⁹ Now RUCO agrees too.

15 **8. Remaining Rate Bases Issues.**

16 **Q. PLEASE DISCUSS THE POSITIONS OF STAFF AND RUCO WITH**
17 **RESPECT TO THE DEFERRED REGULATORY ASSETS THE**
18 **COMPANY PROPOSES TO INCLUDE IN RATE BASE.**

19 A. Staff continues to propose to exclude the Company proposed deferred regulatory
20 assets from rate base.⁴⁰ The Company continues to believe that the deferred
21 regulatory assets should be included in rate base. Mr. Sorensen responds to Staff's
22

23 ³⁷ See also Rejoinder Testimony of Greg Sorensen (Phase I – Determination of Rate Base and Rates)
24 (“Sorensen Rj.”) at 11.

25 ³⁸ S Rowell Sb. at 3.

26 ³⁹ Bourassa Rb. at 13.

⁴⁰ Michlik W Sb. at 6.

1 surrebuttal testimony and discusses this issue in more detail in his rejoinder
2 testimony.⁴¹

3 RUCO agrees to including the deferred regulatory costs in rate base,
4 however, RUCO also continues to propose to reduce the deferred regulatory asset
5 by \$8,256 (one year of amortization).⁴² Despite RUCO assertion that is allowing
6 the Company to earn a return on prudently spent money while beginning to recover
7 that cost each year, RUCO's does not adequately explain why it is appropriate to
8 reduce the balance by one year of amortization in light of my rebuttal testimony on
9 this issue.⁴³

10 **B. Wastewater Division Rate Base**

11 **Q. WOULD YOU PLEASE IDENTIFY THE PARTIES' RESPECTIVE**
12 **WASTEWATER RATE BASE RECOMMENDATIONS?**

13 **A.** Yes, for the Wastewater Division the rate bases proposed by the parties proposing a
14 rate base in the case, the Company, Staff and RUCO, are as follows:

	<u>OCRB</u>	<u>FVRB</u>
15 Company-Rebuttal	\$28,034,855	\$28,034,855
16 Staff -Surrebuttal	\$27,861,961	\$27,861,961
17 RUCO-Surrebuttal	\$22,750,383	\$22,750,383
18 Company Rebuttal	\$28,222,289	\$28,222,289

19
20 Again, the other parties have not made specific proposals for rate base.

21 **1. Plant-in-service.**

22 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S PROPOSED**
23 **ORIGINAL COST RATE BASE FOR THE WASTEWATER DIVISION,**

24 ⁴¹ See Sorensen Rj. at 12-13.

25 ⁴² S Rowell Dt. at 3-4.

26 ⁴³ Bourassa Rb. at 18.

1 **AND IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM**
2 **STAFF AND/OR RUCO?**

3 A. The Company's rebuttal rate base adjustments to the wastewater division's OCRB
4 are detailed on rebuttal schedules B-2, pages 3 through 6. Rebuttal Schedule B-2,
5 page 1 and 2, summarize the Company's proposed adjustments and the rebuttal
6 OCRB. I have previously discussed the Company's proposed PIS adjustments and
7 will not repeat them here.⁴⁴ The Company is not proposing any changes to its
8 previously proposed adjustments; nor is it recommending any additional
9 adjustments at this stage of the proceeding, except for a small correction of an error
10 to removed an erroneous entry for office rent of \$7,072.⁴⁵

11 **Q. DO STAFF AND RUCO NOW AGREE ON THE COST OF THE ODOR**
12 **CONTROL UNIT TRANSFERRED TO BLACK MOUNTAIN SEWER?**

13 A. Yes. Both Staff and RUCO now agree to remove \$38,250 from PIS.⁴⁶

14 **Q. WHAT ARE THE REMAINING DIFFERENCES BETWEEN STAFF,**
15 **RUCO AND THE COMPANY FOR CAPITALIZED EXPENSES?**

16 A. The Company continues to propose to capitalize \$25,702 of expenses.⁴⁷ RUCO
17 continues to propose to capitalize \$17,124 of expenses.⁴⁸ The difference between
18 the Company and RUCO is that the Company continues proposes to capitalize a
19 filter system repair of \$8,054, and the cost of work on a UV system of \$525
20 recorded during the test year which RUCO does not. I have previously testified as
21

22 ⁴⁴ Bourassa Rb. at 19-21.

23 ⁴⁵ See Company Wastewater Rebuttal Schedule B-2, page 3 *corrected* by Company Wastewater Rejoinder
Schedule B-2, page 3, excluding this entry.

24 ⁴⁶ See RUCO Wastewater Surrebuttal Schedule 3, page 2 of 4, Adjustment Number 5; Staff Surrebuttal
Schedule JMM-WW6.

25 ⁴⁷ Bourassa Rb. at 20; Company Wastewater Rejoinder Schedule B-2, page 3.3.

26 ⁴⁸ See RUCO Wastewater Surrebuttal Schedule 3, page 2 of 4, Adjustment Numbers 6 and 7.

1 to why these two amounts should be capitalized and will not repeat that testimony
2 here.⁴⁹

3 **Q. DOES THE FACT THAT THEY WERE FOR WORK THAT OCCURRED**
4 **PRIOR TO THE TEST YEAR PREVENT THE \$8,054 AND \$525 FROM**
5 **BEING CAPITALIZED?**

6 A. No, contrary to what RUCO suggests⁵⁰, a capital expenditure is a capital
7 expenditure no matter if it was for work during the test year or prior to the test
8 year. Otherwise utilities could only build plant during a test year, which is
9 obviously not the case.

10 **Q. HAS RUCO RESPONDED TO YOUR REBUTTAL TESTIMONY ON WHY**
11 **THESE TWO AMOUNTS SHOULD BE CAPITALIZED?**

12 A. No.

13 **Q. PLEASE CONTINUE. HAS STAFF PROPOSED TO CAPITALIZE ANY**
14 **EXPENSES?**

15 A. Yes. Like RUCO, Staff proposes to capitalize \$17,123 of test year expenses.⁵¹
16 Again, the difference is comprised of the two invoice amounts discussed
17 previously. And, like RUCO, Staff does not explain why these two invoices should
18 not be capitalized.

19 **Q. PLEASE COMMENT ON THE REMOVAL OF COSTS FOR THE LIFT**
20 **STATIONS.**

21
22
23
24 ⁴⁹ Bourassa Rb. at 20.

25 ⁵⁰ S Rowell Sb. at 16.

26 ⁵¹ Surrebuttal Testimony of Jeffrey M. Michlik for Wastewater Division ("Michlik WW Sb.") at 4; Staff Surrebuttal Schedule JMM-WW7.

1 A. Both the Company and Staff propose to remove \$554,977⁵² whereas RUCO
2 proposes to remove \$544,977.⁵³ All we know is that RUCO believes its amount is
3 correct based on the information it reviewed; we do not know much about why
4 RUCO disagrees with our number.⁵⁴

5 **Q. ARE THERE ANY OTHER REMAINING RATE BASE DISPUTES WITH**
6 **RUCO.**

7 A. Yes. RUCO continues to propose to exclude \$36,500 of costs related to work
8 performed by Pacific Advanced Civil Engineering related to the permitting of the
9 Palm Valley Water Reclamation Facility ("PVWRF").⁵⁵ RUCO has not responded
10 to the Company's rebuttal testimony on this issue.⁵⁶

11 **Q. PLEASE COMMENT ON RUCO'S PROPOSAL TO RECLASSIFY REPAIR**
12 **INVOICES FROM PRECISION ELECTRIC TO CONTRACTUAL**
13 **SERVICES – OTHER.**

14 A. RUCO proposes to reclassify \$136,488 of 2008 capital repair costs to test year
15 expense (Contractual Services – Other) and to remove \$33,887 of 2007 capital
16 repair costs- \$14,691 of which is reclassified to test year expense.⁵⁷ The Company
17 disagrees as these are legitimate capital repairs. These costs are for repairs which
18 either extend the life of existing plant or the repairs have useful lives of more than
19

20
21 ⁵² Bourassa Rb. at 19; Direct Testimony of Jeffrey M. Michlik for Wastewater Division ("Michlik WW
Dt.") at 7.

22 ⁵³ S Rowell Sb. at 12.

23 ⁵⁴ S Rowell Sb. at 12-13.

24 ⁵⁵ RUCO Wastewater Surrebuttal Schedule 3, page 2 of 4.

25 ⁵⁶ Rebuttal Testimony of Greg Sorensen (Phase I – Determination of Rate Base and Rates) ("Sorensen
Rb.") at 18-20.

26 ⁵⁷ See RUCO Wastewater Surrebuttal Schedule 3, page 2 of 4, Adjustment Number 8, and RUCO
Wastewater Schedule 3, page 3 of 4, Adjustment Number 9.

1 one year. Further these costs are comprised of invoices in the \$14,000 to \$29,000
2 range and far exceed the typical threshold for expensing rather than capitalizing.

3 **Q. DOES STAFF PROPOSE SIMILAR ADJUSTMENTS?**

4 A. No.

5 **Q. DOES RUCO CONTINUE TO PROPOSE TO EXCLUDE ALL**
6 **CAPITALIZED AFFILIATE LABOR?**

7 A. Yes.⁵⁸ Again, the Company continues to disagree with RUCO's proposal. I have
8 previously testified to the Company's position on this issue and will not repeat that
9 testimony here.⁵⁹ I have also addressed RUCO's surrebuttal comments previously
10 in this testimony and will not repeat that testimony.

11 **Q. DOES RUCO CONTINUE TO PROPOSE TO REMOVE \$3.5 MILLION OF**
12 **COSTS RELATED TO THE PALM VALLEY RECLAMATION**
13 **FACILITY?**

14 A. Yes.⁶⁰ The Company continues to disagree with RUCO's proposal. The
15 Company's position is further addressed in the rejoinder testimonies of Mr.
16 McBride and Mr. Sorensen.

17 **2. Accumulated Depreciation.**

18 **Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO ACCUMULATED**
19 **DEPRECIATION.**

20 A. Rebuttal B-2 adjustment 2, as summarized on Rebuttal Schedule B-2, page 2,
21 consists of three adjustments labeled as "A," "B," and "C" on Rebuttal Schedule B-
22 2, page 4. I have previously discussed the Company's proposed accumulated
23

24 ⁵⁸ See RUCO Wastewater Surrebuttal Schedule 3, pages 3 of 4 and 4 of 4, Adjustment Numbers 10-19.

25 ⁵⁹ Bourassa Rb. at 13-15.

26 ⁶⁰ See RUCO Wastewater Surrebuttal Schedule 3, page 4 of 4, Adjustment Number 20.

1 depreciation adjustments and will not repeat them here.⁶¹ The Company is not
2 proposing any changes to its previously proposed adjustments nor is it
3 recommending any additional adjustments at this stage of the proceeding.

4 **Q. DOES STAFF NOW TREAT THE REMOVAL OF THE LIFT STATIONS**
5 **AS RETIREMENTS?**

6 A. Yes.⁶² Both Staff and the Company now agree to remove \$554,977 of accumulated
7 depreciation for the booster station retirement.

8 **Q. WHAT IS RUCO'S ADJUSTMENT TO ACCUMULATED**
9 **DEPRECIATION FOR THE LIFT STATION RETIREMENTS?**

10 A. \$544,997.⁶³ This adjustment is consistent with RUCO's proposed adjustment to
11 PIS for the lift stations, which I addressed immediately above.

12 **Q. DO STAFF AND RUCO NOW AGREE ON THE ACCUMULATED**
13 **DEPRECIATION ADJUSTMENT RELATED TO THE ODOR CONTROL**
14 **UNIT TRANSFERRED TO BLACK MOUNTAIN SEWER COMPANY?**

15 A. Yes. Staff and RUCO agree to remove \$11,040 of related accumulated
16 depreciation.⁶⁴

17 **Q. HAS STAFF OR RUCO ADOPTED THE COMPANY'S PROPOSED**
18 **ADJUSTMENT TO ACCUMULATED DEPRECIATION OF \$8,003**
19 **RELATED TO DECOMMISSIONING COSTS OF THE LITCHFIELD**
20 **GREENS LIFT STATION?**

21 A. No. And, neither Staff nor RUCO has addressed this issue. I explained this
22 adjustment in my rebuttal testimony and will not repeat my testimony here.⁶⁵

23 ⁶¹ Bourassa Rb. at 21-22.

24 ⁶² Michlik WW Sb. at 4; *see* Staff Surrebuttal Schedule JMM-WW8.

25 ⁶³ S Rowell Sb. at 12.

26 ⁶⁴ *See* Staff Surrebuttal Schedule JMM-WW4, Adjustment Number 2; S Rowell Sb. at 11.

⁶⁵ Bourassa Rb. at 22.

1 **Q. PLEASE EXPLAIN THE REMAINING DIFFERENCES BETWEEN THE**
2 **PARTIES WITH RESPECT TO ACCUMULATED DEPRECIATION.**

3 A. The remaining differences between the parties with respect to accumulated
4 depreciation are primarily due to differences in the PIS adjustments discussed
5 previously.

6 **3. Deferred Income Taxes (DIT)**

7 **Q. HAS THE COMPANY PROPOSED A REJOINDER ADJUSTMENT TO**
8 **DEFERRED INCOME TAXES FOR THE WASTEWATER DIVISION?**

9 A. Yes. In rebuttal B-2 adjustment 3, as shown on Schedule B-2, page 2, the
10 Company's deferred income tax liability is increased by \$124,556 to \$140,544.
11 The details of the Company's rejoinder proposed DIT adjustment is shown on
12 Rejoinder Schedule B-2, page 5. I previously explain the reasons for and means of
13 updating the Company's DIT computation in my discussion of the water division
14 rate base above. Staff's need for further review of the calculation despite
15 agreement on the methodology applies here as well.⁶⁶ RUCO's DIT computation
16 of its own totaling \$333,803⁶⁷ is flawed for the same previously in this testimony.

17 **4. AIAC and CIAC.**

18 **Q. DO THE PARTIES NOW AGREE TO ADJUST AIAC AND CIAC**
19 **RELATED TO THE LIFT STATION RETIREMENTS?**

20 A. Yes. The Company proposes a decrease to AIAC of \$16,649 and a decrease to
21 CIAC of \$93,346.⁶⁸ Staff and RUCO propose similar adjustments.⁶⁹

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23
24 ⁶⁶ Michlik W Sb. at 6.

25 ⁶⁷ S Rowell Sb. at 14; RUCO Wastewater Surrebuttal Schedule 2, page 3.

26 ⁶⁸ Bourassa Rb. at 23.

⁶⁹ S Rowell Sb. at 12; Staff Surrebuttal Schedule JMM-WW6.

1 **5. Removal of Security Deposits.**

2 **Q. DO STAFF AND RUCO REMOVE SECURITY DEPOSITS FROM**
3 **CUSTOMER METER DEPOSITS AS PROPOSED BY THE COMPANY?**

4 A. RUCO agrees to remove security deposits.⁷⁰ Staff does not remove security
5 deposits.⁷¹ In fact, Staff continues proposes to increase Customer Meter Deposits
6 from \$68,685 to 81,798.⁷² Again, these are security deposits, not customer meter
7 deposits. These amounts should not be included in rate base. I have previously
8 testified on this issue and will not repeat that testimony here.

9 **6. Debt Issuance Costs.**

10 **Q. DOES RUCO NOW AGREE TO REMOVE DEBT ISSUANCE COSTS**
11 **FROM RATE BASE?**

12 A. Yes.⁷³ As you will recall, the Company agreed with Staff's adjustment and
13 proposed to remove the debt issuance costs in the Company's rebuttal filing.⁷⁴

14 **IV. INCOME STATEMENT**

15 **A. Water Division Revenue and Expenses.**

16 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S WATER DIVISION**
17 **PROPOSED ADJUSTMENTS TO REVENUES AND EXPENSES AND**
18 **IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM STAFF**
19 **AND/OR RUCO?**

20 A. The Company rebuttal adjustments for the water division are detailed on Rejoinder
21 Schedule C-2, pages 1-14. The rejoinder income statement with adjustments is

22
23 ⁷⁰ S Rowell Sb. at 12.

24 ⁷¹ Michlik WW Sb. at 5.

25 ⁷² Michlik WW Dt. at 9.

26 ⁷³ S Rowell Sb. at 11.

⁷⁴ Bourassa Rb. at 24.

1 summarized on Rebuttal Schedule C-1, page 1-2. I have previously discussed the
2 Company's proposed accumulated depreciation adjustments and will not repeat
3 them here.⁷⁵ The Company is not proposing any changes to its previously
4 proposed adjustments; nor is it recommending any additional adjustments at this
5 stage of the proceeding. Notably though, proposed property taxes and income
6 taxes have been adjusted to reflect the rejoinder proposed revenues.

7 **Q. DOES STAFF NOW AGREE TO COMPUTE CIAC AMORTIZATION**
8 **USING ACCOUNT SPECIFIC RATES?**

9 A. Yes.⁷⁶

10 **Q. DO YOU FIND AN ERROR IN STAFF'S COMPUTATION OF**
11 **DEPRECIATION EXPENSE?**

12 A. Yes. Staff's computation of depreciation expense excludes the costs of post test
13 year plant totaling \$1,885,770. Consequently, Staff's depreciation expense is
14 understated by \$62,796 (\$1,885,770 times 3.33%). Putting that aside, with the
15 correction to the CIAC amortization rate, the difference in the depreciation and
16 amortization expense recommended by each of the parties is now a function of
17 each of the parties' respective PIS and CIAC adjustments and not the result of
18 differences in the depreciation rates or the amortization rates.

19 **Q. HAS RUCO MODIFIED ITS PROPERTY TAX COMPUTATION TO USE**
20 **TWO YEARS OF ADJUSTED TEST YEAR REVENUES AND ONE YEAR**
21 **OF PROPOSED REVENUES?**

22 A. Yes.⁷⁷ The differences in the level of property tax expense recommended by each
23 of the party's is now a function of each of the parties' respective adjusted and

24 ⁷⁵ Bourassa Rb. at 21-22.

25 ⁷⁶ Michlik W Sb. at 8.

26 ⁷⁷ S Rowell Sb. at 8; see RUCO Water Surrebuttal Schedule 4, page 8 of 9.

1 proposed revenues rather than a difference in the revenue components used in the
2 property tax computation.

3 **1. Remaining Revenue and Expense Issues.**

4 **Q. PLEASE IDENTIFY ANY REMAINING ISSUES IN DISPUTE WITH**
5 **RUCO AND/OR STAFF.**

6 A. RUCO has not adopted the Company's proposal to increase bad debt expense by
7 \$5,284 reflecting the Company's adoption of Staff's normalization adjustment.⁷⁸

8 In an effort to reduce an issue in dispute, LPSCO also proposes to normalize
9 fuel for power production expense and reduces expense by \$20,309.⁷⁹ Staff agrees
10 with the Company's proposal.⁸⁰ However, RUCO continues to propose
11 disallowing \$56,381 of fuel for power expenses incurred during the test year
12 because they are "non-recurring".⁸¹ We disagree and the amount proposed reflects
13 the best measure of the amount likely to be incurred during the period the rates
14 approved in this rate case will be in effect.

15 RUCO and the Company disagree on the level of chemicals expense. While
16 the Company adopted a \$305 adjustment to remove expense that was proposed by
17 RUCO, RUCO proposes to remove an additional adjustment \$749.⁸² The
18 Company has examined the all the entries and invoices and concludes that the \$749
19 invoice RUCO seeks to remove was for expenses incurred during the test year.

20 **Q. DOES STAFF REMOVE AN ADDITIONAL \$749 FROM CHEMICALS**
21 **EXPENSE?**

22
23 ⁷⁸ Michlik W Dt. at 20.

24 ⁷⁹ Bourassa Rb. at 31.

25 ⁸⁰ Michlik W Sb. at 8.

26 ⁸¹ S Rowell Dt. at 7.

⁸² S Rowell Sb. at 6.

1 A. No. Staff agrees with the Company and removes the \$305 amount.⁸³

2 **Q. PLEASE CONTINUE.**

3 A. RUCO and the Company disagree on RUCO's proposal to remove \$9,638 of
4 allegedly "non-recurring expenses" from Outside Services-Other.⁸⁴ The Company
5 believes the remaining \$9,636 reflects the nature and level of expense that is
6 expected to be incurred on a going forward basis and therefore the costs should be
7 allowed in operating expense.

8 **Q. PLEASE CONTINUE.**

9 A. RUCO and the Company also disagree on RUCO's proposal to remove \$5,260 of
10 RUCO asserted unnecessary expense from Outside Services - Other. The
11 Company continues to agree to remove the allocated portion of expenses related to
12 a holiday party and the costs for Diamondbacks games totaling \$3,191 proposed by
13 RUCO.⁸⁵ However, the Company disagrees with the removal of remainder of the
14 allocated portion of the costs of dues and memberships, business publications, and
15 travel.⁸⁶ The Company believes these are prudent and necessary expenses. Travel
16 is a necessary part of insuring hands-on oversight of the Company by Algonquin.
17 Dues, memberships and publications provide, among other things, access to lower
18 cost goods and services, access to industry knowledge and expertise, training, and
19 information on the very latest developments in technology and practices.

20 **Q. DOES STAFF PROPOSE TO REMOVE SIMILAR EXPENSES RELATED**
21 **TO A HOLIDAY PARTY AND DIAMONDBACK TICKETS?**
22
23

24 ⁸³ Michlik W Sb. at 8.

25 ⁸⁴ See RUCO Water Surrebuttal Schedule 4, page 3 of 9, Adjustment Number 4a.

26 ⁸⁵ See Company Water Rejoinder Schedule C-2, page 10.

⁸⁶ See RUCO Water Direct Schedule 4, page 7 of 15.

1 A. Yes. Like the Company, Staff proposes to remove \$3,191 of unnecessary
2 expense.⁸⁷

3 **Q. DOES STAFF REMOVE CAPITALIZED EXPENSES FROM OUTSIDE**
4 **SERVICES SIMILAR TO THE COMPANY AND RUCO PROPOSALS?**

5 A. Yes. Except that Staff only proposes to remove \$9,714 of capitalized expenses
6 from Outside Services – Other.⁸⁸ The \$9,714 is comprised of one invoice for
7 \$1,114 and one invoice for \$8,600 and represents a portion of the \$19,989 that both
8 the Company and RUCO propose to remove.⁸⁹

9 **Q. DO RUCO AND STAFF CONTINUE TO PROPOSE ADJUSTMENTS TO**
10 **THE CENTRAL OFFICE COST ALLOCATION?**

11 A. Yes.⁹⁰ RUCO proposes to remove \$286,799 of Central Office costs down from the
12 \$291,708 in its direct filing.⁹¹ Likewise, Staff is recommending removal of
13 \$250,182 of Central Office costs.⁹² Mr. Tremblay presents LPSCO's response on
14 this issue in his rejoinder testimony.

15 **Q. ISN'T STAFF NOW PROPOSING TO REMOVE EMPLOYEE BONUSES?**

16 A. Yes. Staff is proposing to remove \$26,477 of bonuses from operating expenses
17 which is the allocated water division portion of \$52,954 of employee bonuses paid
18 during the test year. Mr. Sorensen addresses this issue further in his rejoinder
19 testimony.⁹³

20

21

⁸⁷ Michlik W Sb. at 8; *see also* Staff Surrebuttal Schedule JMM-W18.

22

⁸⁸ Michlik W Sb. at 8; *see also* Staff Surrebuttal Schedule JMM-W18.

23

⁸⁹ Bourassa Rb. at 32; *see* RUCO Surrebuttal Schedule 4, page 3 of 9, Adjustment Number 4a.

24

⁹⁰ S Rowell Sb. at 7.

25

⁹¹ S Rowell Sb. at 7.

26

⁹² *See* Staff Surrebuttal Schedule JMM-W18.

⁹³ Sorensen Rj. at 13.

1 **Q. WHERE DO THE PARTIES STAND ON RATE CASE EXPENSE?**

2 A. There remains a dispute over portions of rate case expense. Staff and RUCO's
3 amortization period of five years which lowers the annual level of expense. The
4 Company disagree with a five year amortization period for the reasons explained in
5 Mr. Sorensen's rejoinder.

6 **Q. IS THERE ANY DISPUTE OVER THE AMOUNT OF RATE CASE**
7 **EXPENSE?**

8 A. We do not currently have a dispute over the amount of rate case expense. However,
9 the Company is currently evaluating and determining the amount of rate case
10 expense incurred so far.

11 **Q. WHY IS THE COMPANY EVALUATING THE AGREED UPON AMOUNT**
12 **OF RATE CASE EXPENSE NOW?**

13 A. Because there have been significant changes to the anticipated level of activity in
14 this rate case. Until the direct filings in early November by the other parties, this
15 case involved a significant amount of discovery, but was otherwise relatively quiet.
16 Then, things heated up. There have been a number of procedural issues including
17 significant disputes with RUCO over Mr. Rowell's testimony; there have been
18 issues over the AIAC payment by Westcor, in addition to the anticipated rebuttal,
19 surrebuttal and rejoinder stages of the proceedings. Plus, we now have a Phase 2
20 that has to be accounted for now. While an updated estimate is going to show the
21 Company has already incurred more than half the amount requested, until we can
22 close out all billings for December, I cannot give a more firm estimate of the final
23 rate case expense.

1 Q. OKAY MR. BOURASSA, SO WHAT ARE YOU PROPOSING?

2 A. During the hearings next week, I will present the most current estimate possible,
3 based on billings through year-end 2009. From there, I will make the best estimate
4 possible of the final rate case expense and the Company's request.

5 Q. WAIT A MINUTE MR. BOURASSA. WEREN'T YOU JUST A WITNESS
6 IN ANOTHER RATE CASE WHERE RUCO WAS CRITICIZED BY AN
7 AFFILIATE FOR WAITING TOO LONG TO TAKE A POSITION ON
8 RATE CASE EXPENSE?

9 A. Yes, and that criticism was warranted because RUCO took no position at all until
10 after the hearing. Here, I have taken a position from the time of the application that
11 I would provide my best estimate of rate case expense at each stage of the
12 proceeding. Right now, we will be over half way there before trial starts. At trial,
13 I will set forth the Company's best estimate and explain the basis for the final
14 position. The Company will also make any data necessary for Staff and RUCO to
15 verify amounts incurred, as we have always done in rate case involving myself and
16 Fennemore Craig as counsel. And Mr. Sorensen and I will be subject to cross-
17 examination on the Company's position. This is very different than what happened
18 with RUCO in the recent BMSC rate case, in my opinion.

19 Q. HOW DO THE PARTIES KNOW IT WON'T BE SOMETHING
20 SUBSTANTIALLY DIFFERENT THAN REQUESTED?

21 A. Because LPSCO has authorized me to testify that it will not seek more than
22 \$500,000 for the two phases of this rate case.

23 Q. PLEASE COMMENT ON DIFFERENCES BETWEEN THE PARTIES ON
24 RATE CASE EXPENSE.

25 A. At this stage of the proceeding all of the parties are proposing rate case expense of
26 \$210,000 for each division. However, Staff and RUCO recommend an

1 amortization period of five years which lowers the annual level of expense.⁹⁴ The
2 Company continues to disagree with a five year amortization period.⁹⁵

3 **B. Wastewater Division Revenue and Expenses.**

4 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S WASTEWATER**
5 **DIVISION PROPOSED ADJUSTMENTS TO REVENUES AND EXPENSES**
6 **AND IDENTIFY ANY ADJUSTMENTS YOU HAVE ACCEPTED FROM**
7 **STAFF AND/OR RUCO?**

8 A. The Company rejoinder adjustments for the Wastewater Division are detailed on
9 Rejoinder Schedule C-2, pages 1-14. The rebuttal income statement with
10 adjustments is summarized on Rejoinder Schedule C-1, page 1-2. The Company is
11 not proposing any changes to its previously proposed adjustments; nor is it
12 recommending any additional adjustments at this stage of the proceeding. Again,
13 property taxes and income taxes have been adjusted to reflect the rejoinder
14 proposed revenues.

15 **Q. DOES STAFF NOW AGREE TO COMPUTE CIAC AMORTIZATION**
16 **USING ACCOUNT SPECIFIC RATES?**

17 A. Yes, same as with the water division discussed above.⁹⁶

18 **Q. HAS RUCO MODIFIED ITS PROPERTY TAX COMPUTATION TO USE**
19 **TWO YEARS OF ADJUSTED TEST YEAR REVENUES AND ONE YEAR**
20 **OF PROPOSED REVENUES?**

21 A. Yes, same as with the water division discussed above.⁹⁷

22
23
24 ⁹⁴ Michlik W Dt. at 18; S Rowell Sb. at 7-8.

25 ⁹⁵ See Sorensen Rj. at 1-2; Sorensen Rb. at 10; Bourassa Rb. at 38.

26 ⁹⁶ Michlik W Sb. at 8.

⁹⁷ S Rowell Sb. at 8; see RUCO Water Surrebuttal Schedule 4, page 8 of 9.

1 Q. DO STAFF AND RUCO NOW AGREE TO THE REMOVAL OF
2 CONTRACTUAL SERVICES COSTS FROM AEROTEK?

3 A. Yes.⁹⁸

4 1. Remaining Revenue and Expense Issues.

5 Q. PLEASE CONTINUE.

6 A. RUCO has not adopted the Company's proposal to reduce bad debt expense by
7 \$21,791 to about \$22,000. The Company's adjustment reflects the Company's
8 adoption of Staff's normalization adjustment.⁹⁹ Instead, RUCO proposes to reduce
9 bad debt expense by \$40,848.¹⁰⁰

10 RUCO's adjustment is flawed because it is based on the water division's test
11 year level of bad debt relative to revenues. RUCO's resulting level of bad debt
12 expense for the wastewater division is about \$3,000. Over the past couple of years,
13 LPSCO has written off over \$63,500 of customer receivables. No one should be
14 surprised at this given all we have heard about the economy in rate cases the past
15 18 months or so. Plus, sewer receivables are harder to collect given that you can't
16 turn off service of a customer fails to pay his/her sewer bill. A \$3,000 annual level
17 of expense is totally reasonable under the circumstances.

18 Q. ANY OTHER INCOME STATEMENT ISSUES IN DISPUTE?

19 A. There remains disagreement on certain expenses RUCO seeks to remove from the
20 test year operating expenses. In particular, RUCO proposes to remove \$19,784 for
21 effluent disposal site maintenance, including landscape clean-up and crop planting
22 for beneficial reuse,¹⁰¹ \$16,428 for grounds maintenance and sewer line

23
24 ⁹⁸ Michlik WW Sb. at 6; S Rowell Sb. at 17.

25 ⁹⁹ Michlik WW Dt. at 19.

26 ¹⁰⁰ S Rowell Dt. at 16.

¹⁰¹ See RUCO Wastewater Direct Schedule 3, page 5 of 19, lines 18-20.

1 cleaning.¹⁰² The Company believes the \$19,784 and the \$16,428 reflect the nature
2 and level of expense the Company expects to incur on a going forward basis and
3 therefore the costs should be allowed in operating expense.

4 **Q. WHY DOES RUCO BELIEVE THESE EXPENSES ARE “NON-
5 RECURRING”?**

6 A. I do not know because RUCO’s witnesses do not provide any explanation their
7 filings. But these adjustments are very difficult for utilities to accept.

8 **Q. WHY IS THAT, MR. BOURASSA?**

9 A. What should LPSCO have done when it faced a need for effluent clean up and
10 sewer-line cleaning? Refuse to incur nearly \$40,000 that was needed and prudent
11 because it might not need to do the exact same thing to maintain and operate its
12 system next year? LPSCO is running a business and they incur operating expenses
13 that are reasonable and necessary every day. These expenses fit groups of expected
14 costs for things like maintenance, repairs, legal, but may look exactly the same
15 every year. RUCO should not be allowed to create a loophole where these costs
16 are not recoverable. It seems to me if they are not being recovered from ratepayers
17 then they do not need to be incurred in service of those ratepayers in the future.

18 **Q. THANK YOU, PLEASE CONTINUE WITH YOUR DISCUSSION OF THE
19 REMAINING ISSUES IN DISPUTE?**

20 A. RUCO and the Company also disagree on RUCO’s proposal to remove \$5,155 as
21 “unnecessary expense” from Outside Services - Other. I have already addressed
22 adjustments for the allocated portion of expenses related to a holiday party and
23
24
25

26 ¹⁰² See RUCO Wastewater Direct Schedule 3, page 5 of 19, lines 23-26.

1 tickets, as well as its disagreement with the removal of remainder of the allocated
2 portion of the costs of dues and memberships, business publications, and travel.¹⁰³

3 **Q. DO RUCO AND STAFF MAKE SIMILAR ADJUSTMENTS TO CENTRAL**
4 **OFFICE COSTS?**

5 A. Yes.¹⁰⁴ RUCO proposes to remove \$186,950 of Central Office costs down from
6 the \$191,850 in its direct filing.¹⁰⁵ Staff is recommending removal of \$266,665 of
7 Central Office costs.¹⁰⁶ As mentioned, the Company continues to disagree as
8 testified to by with RUCO's proposal. Mr. Tremblay addresses this issue in detail
9 in his rejoinder testimony.

10 **Q. WHAT ABOUT "BONUSES"?**

11 A. Yes. Staff is proposing to remove \$26,477 of bonuses from operating expenses
12 which is the allocated water division portion of \$52,954 of employee bonuses paid
13 during the test year. Mr. Sorensen addresses this issue further in his rejoinder
14 testimony as I testified above.

15 **V. RATE DESIGN**

16 **A. Water Division Rate Design.**

17 **Q. WHAT ARE THE COMPANY'S PROPOSED RATES FOR WATER**
18 **SERVICE?**

19 A. The Company's proposed rejoinder rates are:

20 **MONTHLY SERVICE CHARGES**

21	5/8" x 3/4" meters	\$10.35
22	3/4" Meters	\$26.39

23 ¹⁰³ See RUCO Water Direct Schedule 4, page 8 of 19, and Company Wastewater Rejoinder Schedule C-2,
24 page 9.

25 ¹⁰⁴ S Rowell Sb. at 17; *see also* RUCO Wastewater Surrebuttal Schedule 4, page 3 of 7.

26 ¹⁰⁵ S Rowell Sb. at 17; *see also* RUCO Wastewater Surrebuttal Schedule 4, page 3 of 7.

¹⁰⁶ See Staff Surrebuttal Schedule JMM-WW15.

1	1" Meters	\$43.99
2	1 1/2" Meters	\$54.28
3	2" Meters	\$66.80
4	3" Meters	\$133.60
5	4" Meters	\$208.75
6	6" Meters	\$417.50
7	8" Meters	\$501.00
8	10" Meters	\$960.25
9	12" Meters	\$1,252.50

10	Construction Water – Hydrants	By meter size
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11	Bulk Water	By meter size
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12 COMMODITY RATES

13	5/8" and 3/4" Meters - Res.	1 to 3,000	\$ 1.23
14		3,001 to 9,000	\$ 1.83
15		Over 9,000	\$ 2.43
16	5/8" and 3/4" Meters – Com., Irr.	1 to 10,000	\$ 1.83
17		Over 10,000	\$ 2.43
18	1" Meters	1 to 20,000	\$ 1.83
19		Over 20,000	\$ 2.43
20	1 1/2" Meters	1 to 30,000	\$ 1.83
21		Over 30,000	\$ 2.43
22	2" Meters	1 to 50,000	\$ 1.83
23		Over 50,000	\$ 2.43
24	3" Meters	1 to 120,000	\$ 1.83
25		Over 120,000	\$ 2.43
26	4" Meters	1 to 180,000	\$ 1.83

1		Over 180,000	\$ 2.43
2	6" Meters	1 to 360,000	\$ 1.83
3		Over 360,000	\$ 2.43
4	8" Meters	1 to 670,000	\$ 1.83
5		Over 670,000	\$ 2.43
6	10" Meters	1 to 940,000	\$ 1.83
7		Over 940,000	\$ 2.43
8	12" Meters	1 to 1,248,000	\$ 1.83
9		Over 1,248,000	\$ 2.43
10	Construction (Hydrant) Water	All gallons	\$ 2.43
11	Bulk Water	All gallons	\$ 1.47

12 **Q. WHAT IS THE IMPACT ON A 3/4 INCH AND 1 INCH METERED**
13 **RESIDENTIAL CUSTOMER UNDER THE COMPANY'S PROPOSED**
14 **RATE DESIGN?**

15 A. As shown on the Rejoinder Schedule H-2, page 1, the average monthly bill under
16 present rates for a 3/4 inch residential customer using an average 9,537 gallons is
17 \$18.64. The average monthly bill under present rates for a 1 inch residential
18 customer using an average 14,556 gallons is \$31.56.

19 **Q. WHAT WILL BE THE AVERAGE 3/4 INCH RESIDENTIAL AND 1 INCH**
20 **RESIDENTIAL CUSTOMER AVERAGE MONTHLY BILL UNDER THE**
21 **NEW RATES?**

22 A. As shown on Schedule H-2, page 1, the average monthly bill under proposed rates
23 for a 3/4 inch residential customer using an average 8,919 gallons is \$42.37 – a
24 \$23.73 increase over the present monthly bill or a 127.31 percent increase. The
25 average monthly bill under proposed rates for 1 inch residential customer using an
26 average 14,556 gallons is \$70.62 – a \$39.06 increase over the present monthly bill

1 or a 127.31 percent increase.

2 **Q. PLEASE COMMENT ON THE PROPOSED RATE DESIGN OF STAFF.**

3 A. Like the Company, Staff is proposing an inverted three tier design for the smaller
4 metered residential customers (5/8 inch and 3/4 inch) and an inverted two tier design
5 for the small commercial metered customers (5/8 inch and 3/4 inch), as well as 1
6 inch and larger metered customers (all classes) with the exception of construction
7 water.¹⁰⁷ Staff's break-over points increase with meter size, but Staff break-over
8 points are different than the Company's. The first tier commodity rate for the
9 small commercial metered customers and 1 inch and larger metered customers is
10 the same as the second tier of the small residential metered customers. The second
11 tier of the small commercial metered customers and 1 inch and larger metered
12 customers is the same as the third tier of the small residential metered customers.¹⁰⁸
13 Other than the bulk water rate that the Company is now proposing, the primary
14 difference in the rate designs is in the commodity rate charged and the level of
15 revenue recovery from each class of customer.

16 **Q. HAVE YOU PERFORMED A REVENUE PROOF ON STAFF PROPOSED**
17 **RATES?**

18 A. Yes. Staff rates now produce the revenue requirement.

19 **Q. PLEASE CONTINUE.**

20 A. Staff's proposed rates shift revenue recovery away from the 3/4 inch metered
21 residential customer class to the larger metered customer classes. The 3/4 inch
22 metered customer class provides approximately 30 percent of water revenues under
23 present rates. Under Staff's proposed rates, the 3/4 inch meter customer provides
24 approximately 26 percent of water revenues. The majority of the revenue shift is to

25 ¹⁰⁷ See Staff Surrebuttal Schedule PMC-W1.

26 ¹⁰⁸ See Staff Surrebuttal Schedule PMC-W1.

1 a bulk water customer outside the CC&N that Staff now classifies as an "8 inch
2 meter customer." Another significant shift is to the 2 inch irrigation customers.

3 **Q. WHO IS THIS BULK CUSTOMER?**

4 A. The City of Goodyear. Mr. Sorensen has also addressed this issue in his rejoinder
5 testimony.¹⁰⁹

6 **Q. DO YOU HAVE AN EXHIBIT SHOWING THE PERCENTAGES OF**
7 **REVENUES DERIVED FROM EACH CUSTOMER CLASS UNDER**
8 **PRESENT RATES AND STAFF PROPOSED RATES?**

9 A. Yes. Attached hereto as **Exhibit TJB-RJ2** is a revenue summary similar to the H-
10 1 schedule contained the Company's rejoinder schedules which shows the revenues
11 under present rates and Staff's proposed rates.

12 **Q. PLEASE CONTINUE.**

13 A. Further evidence of the revenue shift is that under Staff's proposed rates, the ¾
14 inch customers provide the lowest overall return at only 2.24 percent. In contrast,
15 the 8 inch customer group (which now would include Goodyear) provides the
16 highest return at over 200 percent, with the 1 ½ inch and larger metered customers
17 provide returns exceeding 20 percent. Remember, under Staff's proposed revenue
18 requirement, each customer class must achieve an 8.7 percent return in order to
19 cover the cost of service. Customer classes that provide less than 8.7 percent are
20 paying less than the cost of service. Conversely, customer classes providing more
21 than an 8.7 are paying more than their cost of service.

22 **Q. DO YOU HAVE AN EXHIBIT SHOWING THE RETURNS PROVIDED OF**
23 **REVENUES DERIVED FROM EACH CUSTOMER CLASS UNDER**
24 **PRESENT RATES AND STAFF PROPOSED RATES?**

25
26 ¹⁰⁹ Sorensen Rj. at 8-9.

1 A. Yes. Attached hereto as **Exhibit TJB-RJ3** is a cost of service summary schedule
2 similar to the G-2 schedule contained the Company's rejoinder schedules which
3 shows the returns provided by customer class (meter size) under present rates and
4 Staff's proposed rates.

5 **Q. PLEASE CONTINUE.**

6 A. As a consequence of Staff's rate design, the 3/4 inch residential class under Staff's
7 proposed rate design is heavily subsidized by the other customer classes, including
8 a wholesale customer that will have less costly alternatives and likely leave the
9 system.¹¹⁰

10 **Q. WHERE DOES THIS SUBSIDIZATION ORIGINATE?**

11 A. The significant subsidization exists because Staff's proposed rate design contains a
12 relatively low monthly minimum and a relatively low first-tier commodity rate for
13 the 3/4 inch metered residential customers. In fact, the 3/4 inch customers pay the
14 same monthly minimum as the 5/8 inch metered customers and also pay a low first
15 tier commodity rate at \$1.00 per thousand gallons.

16 **Q. BUT ISN'T THAT CONSISTENT WITH A CONSERVATION ORIENTED**
17 **RATE DESIGN, WHICH YOU ALSO HAVE PROPOSED?**

18 A. Yes, but there has to be a balance between the need to properly value the product
19 and the price businesses can afford to pay. Some commercial customers may not
20 be able to absorb the higher rates and the Company faces an unaccounted for
21 increased risk of losing these customers and the associated revenues. Again, we
22 hear a lot about hard economic times. The last thing businesses in LPSCO's
23 service areas likely need in a time of recovery is an extra large rate increase to
24
25

26 ¹¹⁰ Sorensen Rj. at 8-9.

1 subsidize the citizens. I'd think people would rather see jobs and business thriving
2 than lower water bills.

3 This is especially true because all that will happen is more large increases
4 down the road. The larger metered customers tend to use more water and as a
5 result are typically billed much higher amounts. Further, these customers are more
6 profitable because of their higher use. The loss of one or more of the larger
7 metered customers will have a significant impact on the Company's revenues.
8 When LPSCO comes back in it will still have to recover much of the same revenue
9 requirement but without the commercial customers that helped spread the recovery
10 before. That means higher rates for those residential customers Staff saved a
11 couple dollars a month today.

12 **Q. AND THIS IS THE CONCERN THE COMPANY HAS WITH THE CITY**
13 **OF GOODYEAR?**

14 A. Yes. The Company believes Goodyear will leave the system If higher rates are
15 adopted.¹¹¹ Staff's second tier rate for where Goodyear would be classified as a
16 "retail" customer is \$2.88 per thousand gallons. During the test year, Goodyear
17 purchased on average over 12.5 million gallons per month. The first break over
18 point for the 8 inch metered customer class under Staff's rate design is 670,000
19 gallons. Consequently, most of the gallons purchased by Goodyear will be subject
20 to the \$2.88 rate.

21 **Q. ARE THERE ANY OTHER CONCERNS YOU HAVE ABOUT STAFF'S**
22 **PROPOSED RATES?**

23 A. Yes. In addition to shifting revenues away from the largest customer class, Staff's
24 proposed rates shift revenue away from the monthly minimums to the commodity
25

26 ¹¹¹ Sorensen Rj. at 8-9.

1 rates. Under the present rate design, the revenues from the monthly minimums
2 comprises about 36 percent of the revenues are generated from the monthly
3 minimums. Under Staff's proposed rates approximately 31 percent of the revenues
4 are generated from the monthly minimum. Decreasing the portion of revenues
5 recovered from the monthly minimum substantially increases the risk of revenue
6 instability. Inverted tier designs, as proposed by the parties in the instant case,
7 encourage conservation. If conservation is actually achieved, usage will decline
8 and the Company will experience a substantial shortfall in the revenues it collects.
9 As noted above, this risk is entirely unaccounted for by Staff in this case, or in any
10 other rate case to my knowledge.

11 **Q. DO YOU OR THE COMPANY DISAGREE WITH CONSERVATION**
12 **BASED RATES?**

13 A. No, conservation is a community wide goal and should be encouraged as a general
14 policy. There just has to be a balance and a view towards the long-term, not just
15 lower rates now.

16 **Q. THANK YOU. PLEASE COMMENT ON RUCO'S RATE DESIGN?**

17 A. RUCO is proposing an inverted three tier design for the smaller metered residential
18 (5/8 inch and 3/4 inch) and an inverted two tier design for the small commercial and
19 irrigation metered customers (5/8 inch and 3/4 inch) as well as 1 inch and larger
20 metered customers (all classes) with the exception of construction water.¹¹²
21 RUCO's break-over points are different than the Company's, but like LPSCO and
22 Staff, RUCO's break-over points increase with meter size. The first tier
23 commodity rate of the 1 inch and larger metered customers (except irrigation) is
24 the same as the second tier of the small residential and commercial metered
25

26 ¹¹² See RUCO Water Surrebuttal Schedule 5.

1 customers.¹¹³ The second tier of the 1 inch and larger metered customers (except
2 irrigation) is the same as the third tier of the small residential and commercial
3 metered customers. The irrigation customers have different commodity for both
4 tiers but that are similar to the commodity rates of the 1 inch and larger meters
5 (non-irrigation).¹¹⁴

6 **Q. HAVE YOU PERFORMED A REVENUE PROOF ON RUCO'S PROPOSED**
7 **RATES?**

8 A. Yes and I now find that RUCO's proposed rates also produce its recommended
9 revenue requirement.

10 **Q. PLEASE CONTINUE.**

11 A. Based on RUCO's proposed rates revenue recovery is shifted away from the ¾
12 inch metered residential customer class to the larger metered customer classes.
13 The ¾ inch metered customer class provides approximately 30 percent of water
14 revenues under present rates. Under RUCO proposed rates, the ¾ inch meter
15 customer provides approximately 25 percent of water revenues. The majority of
16 the revenue shift is to the 8 inch meter customer, again now Goodyear joining the 2
17 inch irrigation customers.

18 **Q. DO YOU HAVE AN EXHIBIT SHOWING THE PERCENTAGES OF**
19 **REVENUES DERIVED FROM EACH CUSTOMER CLASS UNDER**
20 **PRESENT RATES AND RUCO PROPOSED RATES?**

21 A. Yes. Attached hereto as **Exhibit TJB-RJ4** is a revenue summary similar to the H-
22 1 schedule contained the Company's rejoinder schedules which shows the revenues
23 under present rates and RUCO's proposed rates.

24
25 ¹¹³ See RUCO Water Surrebuttal Schedule 5.

26 ¹¹⁴ See RUCO Water Surrebuttal Schedule 5.

1 Q. PLEASE CONTINUE.

2 A. Further evidence of the revenue shift is that under RUCO's proposed rates, the ¾
3 inch customers provide the lowest overall return at only 1.5 percent. The 8 inch
4 metered customers provides the highest return at over 230 percent while the 2 inch
5 metered customer provide a return of over 50 percent. Remember, under RUCO's
6 proposed revenue requirement, each customer class must achieve an 8.54 percent
7 return in order to cover the cost of service. Customer classes that provide less than
8 8.54 percent are paying less than the cost of service. Conversely, customer classes
9 providing more than an 8.54 are paying more than their cost of service.

10 Q. DO YOU HAVE AN EXHIBIT SHOWING THE RETURNS PROVIDED OF
11 REVENUES DERIVED FROM EACH CUSTOMER CLASS UNDER
12 PRESENT RATES AND RUCO'S PROPOSED RATES?

13 A. Yes. Attached hereto as Exhibit TJB-RJ5 is a cost of service summary schedule
14 similar to the G-2 schedule contained the Company's rejoinder schedules which
15 shows the returns provided by customer class (meter size) under present rates and
16 RUCO's proposed rates.

17 Q. PLEASE CONTINUE.

18 A. Like Staff's rate design, as a consequence of RUCO rate design, the ¾ inch
19 residential class under RUCO's proposed rate design is heavily subsidized by the
20 larger metered customers. Therefore, my testimony above regarding the lack of
21 balance in Staff's rate design applies equally to RUCO's.

22 Q. PLEASE COMMENT ON THE CITY OF LITCHFIELD PARK'S RATE
23 DESIGN?

24 A. The City is proposing is proposing an inverted three tier design for the less than
25 1 inch metered residential, commercial and irrigation customers and an inverted
26 two tier design for the 1 1/2 inch and larger metered customers (all classes) with

1 the exception of the 8 and 10 inch metered commercial customers for which a
2 single tier design is proposed.¹¹⁵ Like the Company, the City's break-over points
3 increase with meter size. The commodity rates and break-over points for the 5/8
4 inch metered residential, commercial and irrigation customers are the same at
5 \$1.20, 1.53, and 2.20, respectively. The commodity rates for the 3/4 inch and 1
6 inch metered residential, commercial and irrigation customers are appreciably
7 higher than the 5/8 inch metered customers at 1.50, 1.95, and 2.20, respectively.
8 The commodity rates for the 1 1/2 and 2 inch meter sizes are the also same across all
9 customer classes at \$1.50 and 2.70, respectively. The break-over points are the
10 same across all customer class for the 1 1/2 inch meter size, and the break over
11 points are the same across all customer classes for the 2 inch meter size. The
12 commodity rates for the 4 inch meters vary among the customer classes.
13 Generally, the commercial and irrigation customers have higher commodity rates
14 than the residential metered customers. For example, the 4 inch residential class
15 has commodity rates of \$1.50 and 2.70, respectively, while the 4 inch commercial
16 class has commodity rates of \$2.60 and \$3.90, respectively. Further, the
17 commodity rates for the 4 inch irrigation class are \$1.85 and \$2.81 respectively.
18 The break-over points for the 4 inch metered residential and commercial customers
19 is the same, while the break-over point for the 4 inch metered irrigation customers
20 is lower. Finally, the City proposes that the 8 inch metered commercial customer
21 pays near the highest commodity rate of all customer classes and meter sizes while
22 the 10 inch metered customer pays the lowest commodity rate of all customer
23 classes and meter sizes.

24
25
26 ¹¹⁵ See City of Litchfield Park Schedule RLD-5 (for all references to the City's recommended rates).

1 **Q. ARE THE MONTHLY MINIMUMS FOR EACH METER SIZE THE SAME**
2 **ACROSS ALL CUSTOMER CLASSES?**

3 A. No. The monthly minimums vary by customer class and meter size for all but the
4 5/8 and 3/4 inch metered customers.

5 **Q. HAVE YOU PERFORMED A REVENUE PROOF ON THE CITY'S**
6 **PROPOSED RATES?**

7 A. Yes. I find that the City's proposed rates do not produce the intended revenue
8 requirement. In fact, the City's proposed rates produce revenues that are
9 approximately \$900,000 too low.

10 **Q. WHY DOES THE CITY'S RATE DESIGN SEEM SO COMPLICATED?**

11 A. I am not really sure but it is sure counter to the objective of simplicity and
12 uniformity of rates among customer classes in a rate design. Further, I do not see
13 how Mr. Darnall can be as specific as he is with respect to the commodity charges
14 and break-over points for each meter size and customer class when his cost of
15 service study is presented by meter size only. Supposedly, Mr. Darnall's objective
16 is to recover the cost of service from each customer class.¹¹⁶ However, within most
17 meter sizes served by the Company there are residential, commercial, and irrigation
18 customers. How are we to know whether within each meter size that Mr. Darnall
19 has not inadvertently shifted recovery of the cost of service from the residential to
20 the commercial (or visa-versa) within each respective meter size.

21 **Q. SO YOU ARE UNABLE TO DETERMINE WHETHER THERE HAS BEEN**
22 **A SHIFT OF REVENUE RECOVERY BETWEEN CLASSES, SIMILAR TO**
23 **THAT WHICH YOU DISCUSSED WITH RESPECT TO STAFF AND**
24 **RUCO'S RATE DESIGNS?**

25
26 ¹¹⁶ Surrebuttal Testimony of Richard L. Darnall at 4.

1 A. No, I can tell something has occurred, I just cannot be more specific on the details.
2 But one thing is quite puzzling - the low single tier commodity rate for the 10 inch
3 meter combined with a relatively low monthly minimum problematic. Based on
4 Mr. Darnall's own cost of service study, the City's proposed rates for the 10 inch
5 metered customer provides the lowest overall return at a negative 14 percent. The
6 10 inch customer class will also see a rate decrease of 40 percent under the City's
7 rate design.

8 I also find the high single tier commodity rate for the 8 inch meter combined
9 with a high monthly minimum problematic. Again, based on Mr. Darnall's own
10 cost of service study, the City's proposed rates for the 8 inch metered customer
11 provides an overall return at a nearly 9.9 percent. The 8 inch customer class will
12 also see the second highest rate increase on average at over 129 percent. Further,
13 the 4 inch metered customer class, which is made up of primarily commercial and
14 irrigation customers and are charged the highest commodity rates under the City's
15 proposed rate design, provide the highest return at over 18 percent. The 4 inch
16 commercial customer class will also see the highest rate increase on average at
17 nearly 205 percent while the 4 inch irrigation class will the third highest rate
18 increase at 94.20 percent. Finally, I find the returns provided by the other meters
19 sizes vary substantially.

20 If Mr. Darnall's objective was to as develop rates intended to produce the
21 target rates of return set forth in Exhibit RLD-4, page 1, he has failed, which is just
22 one more reason the Commission should not adopt his recommended rates in this
23 proceeding.

24 **Q. EXCUSE ME MR. BOURASSA, BUT THE RETURNS LISTED ON MR.**
25 **DARNALL'S SCHEDULE EXHIBIT RJD-4, PAGE 1, SHOW THAT THE**
26 **RETURNS FOR THE 8 INCH AND 10 INCH METERS ARE BOTH 10.46**

1 **PERCENT. IT ALSO SHOWS THAT THE RETURN FOR THE 4 INCH**
2 **METER IS 8.93 PERCENT.**

3 A. Yes. That's what the schedule reflects. It also reflects returns of 8.0 percent for
4 the 5/8 inch, 3/4 inch, 1 inch, and 1.5 inch meter sizes. As I have testified, the
5 City's rates don't work as represented.

6 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE REVENUES AND**
7 **RETURNS PRODUCED BY THE CITY'S PROPOSED RATE DESIGN FOR**
8 **EACH METER SIZE?**

9 A. Yes. Attached hereto as **Exhibit TJB-RJ6** is a cost of service summary schedule
10 similar to Exhibit RLD-4, page 1 which reflects the revenues and the returns
11 provided by the City's proposed rates. As shown, the 10 inch metered customers
12 provide a negative 14.15 percent return (line 29, column 13), the 8 inch metered
13 customers provide a 9.87 percent return (line 29, column 12), and the 4 inch
14 metered customers provide an 18.01 percent return (line 29, column 11). Further,
15 the returns for the 5/8 inch, 3/4 inch, 1 inch, and 1.5 inch vary from a low of 6.21
16 percent to a high of 10.15 percent (line 14, columns 5-8).

17 **Q. IS THE FAILURE TO PRODUCE THE REVENUE YOU TESTIFIED TO**
18 **ALSO REFLECTED IN YOUR EXHIBIT?**

19 A. Yes. The total revenues produced by the City's proposed rates is \$10,894,646 (line
20 18, column 15), whereas the total revenues required is \$11,803,750 (line 3, column
21 4).

22 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE RATE INCREASE**
23 **BASED ON AVERAGE CONSUMPTION FOR EACH METER CLASS**
24 **UNDER THE CITY'S PROPOSED RATES?**

25
26

1 A. Yes. Attached hereto as **Exhibit TJB-RJ7** is a bill comparison a schedule similar
2 to schedule H-2 contained in the Company's rejoinder filing showing the rate
3 increases for each meter size based on the average consumption.

4 **Q. ARE SINGLE TIER DESIGNS APPROPRIATE FOR LARGE METERED**
5 **CUSTOMERS LIKE THE 8 INCH AND 10 INCH METERED**
6 **CUSTOMERS?**

7 A. It depends on the circumstances. The Company is proposing a single tier design
8 for Goodyear (8 inch bulk water). Goodyear purchases significant volumes of
9 water which provides a significant portion of revenues to the Company. My cost
10 of service study indicates that Goodyear helps to subsidize other customer classes.
11 Therefore, it would be detrimental to the Company and ratepayers to lose these
12 revenues as they would have to be made up by the other customer classes, as I have
13 testified already and so has Mr. Sorensen. Like Staff and RUCO, the loss of these
14 revenues is ignored by Mr. Darnall.

15 The 10 inch customer may also warrant a single tier design. However, this
16 customer uses far less water than the 8 inch meter customers (Goodyear). In fact,
17 the 8 inch metered customers use 30 times more water than the 10 inch metered
18 customer. In any case, my cost of service study indicates that a commodity rate of
19 \$0.55 per thousand gallons recommended by Mr. Darnall is far too low.

20 **Q. PLEASE RESPOND TO MR. DARNALL'S CRITICISM THAT YOU**
21 **FAILED TO ALLOCATE A PORTION OF THE PURCHASED POWER TO**
22 **THE DEMAND FUNCTION.**

23 A. Mr. Darnall and I continue to disagree on this point. By definition, electric demand
24 charges are charges for electricity when electricity is used the most, based on the
25 period of time detailed in the power provider's rate plan. It is not a standby charge
26 that is incurred whether electricity is used or not. In other words, it's a variable

1 cost and I believe demand charges are appropriately commodity related. Besides,
2 in the end as I stated in my rebuttal testimony, the allocation of 5 percent of the
3 purchased power costs to the demand function in my study would have no
4 appreciable impact on my cost of service study results.¹¹⁷

5 **Q. PLEASE RESPOND TO MR. DARNALL'S CRITICISM THAT YOU**
6 **SHOULD HAVE ALLOCATED THE BACK FLOW PREVENTION COSTS**
7 **TO THE CUSTOMER FUNCTION RATHER THAN THE DEMAND AND**
8 **COMMODITY FUNCTIONS.**

9 A. I would not necessarily disagree with Mr. Darnall, however, like the allocation of
10 purchased power costs, the allocation of back flow prevention costs to the customer
11 function would have no appreciable impact on my cost of service study results.

12 **Q. PLEASE RESPOND TO MR. DARNALL'S CRITICISM OF YOUR STUDY**
13 **THAT YOU SHOULD HAVE ALLOCATED PROPERTY TAXES AND**
14 **INCOME TAXES BASED UPON COMMODITY, CUSTOMER AND**
15 **METERS AND SERVICES FUNCTIONS NOT JUST TO THE DEMAND**
16 **FUNCTION.**

17 A. First, let me say that I did not allocate property taxes and income taxes based upon
18 demand. I allocated property taxes based on revenues and income taxes based on
19 taxable income. Property taxes are a function of revenues for water and
20 wastewater utilities. Income taxes are a function of taxable income. Accordingly,
21 these are appropriate metrics for the allocation of these costs.

22 **Q. DO YOU AGREE WITH MR. DARNALL THAT DEMAND FACTORS**
23 **BASED ON RELATIVE METER FLOWS ONLY PROVIDES AND**
24
25

26 ¹¹⁷ Bourassa Rb. at 56.

1 **INDICATION OF THE INDIVIDUAL CUSTOMERS DEMAND, NOT THE**
2 **DEMAND THAT A PARTICULAR CLASS HAS ON THIS SYSTEM?**

3 A. No. My factors are based on the each customer class relative to the entire customer
4 base. Further, as I testified, it provides a useful indication of the relative amount of
5 investment in plant to serve each class.¹¹⁸

6 **1. Cost of Service Study.**

7 **Q. HAVE YOU UPDATED YOUR COST OF SERVICE STUDY?**

8 A. Yes. I have updated my cost of service study to reflect the changes to rate base,
9 revenues and expenses contained in the Company's rejoinder filing.

10 **Q. HAVE YOU MODIFIED YOUR COST OF SERVICE FOR THE**
11 **REJOINDER TESTIMONY?**

12 A. Yes. I show separately the hydrant meter customer class.

13 **Q. PLEASE DISCUSS THE RESULTS OF YOUR UPDATED STUDY.**

14 A. As shown on the G-2 schedule, the ¾ inch metered residential class (the largest
15 customer class) stills provide the lowest return at 7.96% at proposed rates and,
16 therefore, continues to pay less than their cost of service¹¹⁹ and to be subsidized by
17 the larger metered customers under proposed rates. The 1 inch, 1 ½ inch, 2 inch,
18 and the 4 inch metered classes provide returns of 10.48%, 18.57%, 16.71%,
19 24.05%, respectively. The 8 inch metered class (Goodyear) provides the highest
20 return of 75.11%.

21 **B. Wastewater Division Rate Design.**

22 **Q. WHAT ARE THE COMPANY'S PROPOSED RATES FOR**
23 **WASTEWATER SERVICE?**

24 _____
25 ¹¹⁸ Bourassa Rb. at 57.

26 ¹¹⁹ To pay full cost of service a customer class must achieve the required return. In the instant case, the Company is proposing an 11% rate of return based on its weighted average cost of capital.

1	A.	The Company's proposed rates are:	
2		Monthly Residential Service	\$ 48.39
3		Multi-Unit Housing - Monthly Per Unit	\$ 44.92
4		Commercial:	
5		Small Commercial - Monthly Service	\$ 81.83
6		Measured Service:	
7		Regular Domestic:	
8		Monthly Service Charge	\$ 45.81
9		Rate Per 1,000 Gallons of Water	\$ 4.00
10		Restaurants, Motels, Grocery Stores &	
11		Dry Cleaning Establishments: (1)	
12		Monthly Service Charge	\$ 45.81
13		Rate Per 1,000 Gallons of Water	\$ 5.34
14		Wigwam Resort:	
15		Monthly Rate - Per Room	\$ 45.81
16		Main Hotel Facilities - Per Month	\$1,779.00
17		Schools - Monthly Service Rates:	
18		Elementary Schools	\$1,209.72
19		Middle Schools	\$1,423.20
20		High Schools	\$1,423.20
21		Community College	\$2,205.96
22		Effluent	Market Rate

23 **Q. DO YOU HAVE CONCERNS OVER RUCO'S CONTINUED ARGUMENTS**
24 **FOR A MUCH HIGHER EFFLUENT RATES?**

25 A. Yes, the same ones expressed by Mr. Sorensen.¹²⁰

26 ¹²⁰ Sorensen Rj. at 2-3.

1 Q. DOES THAT CONCLUDE YOUR REJOINDER TESTIMONY?

2 A. Yes.

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Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120

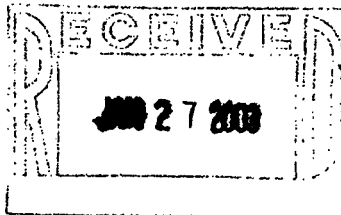
THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009

Exhibit TJB-RJ1

(Rate Base - Phase 1)

JMM#	1-52	2004 - 304 Structures & Improvements
7/1/04 Journal Entry Detail		
01/28/03	9,994.37	CH2OICE PUMP INC - LABOR & MATERIALS FOR INSTALL
01/28/03	3,207.00	LEGEND TECHNICAL SERVICES - TESTING FOR 4-AL
01/28/03	2,565.60	LEGEND TECHNICAL SERVICES - TESTING FOR 4-AL
02/03/03	1,065.00	ANIZORA MAINTENANCE - LABOR & MATERIALS
02/04/03	12,631.29	ANIZORA MAINTENANCE - EQUIPMENT
02/25/03	6,219.68	CH2OICE PUMP - INSTALL 2 PATCH
02/25/03	1,162.94	ROSEMOUNT INC - #2088 PRESSURE TRANSMITS
02/25/03	140.94	ROSEMOUNT INC - #306 INTERFRA MANIFOLDS
03/06/03	8,864.00	YARDNEY WATER MGMT - GAUGE & SEPARATOR
03/25/03	469.61	ANIZORA MAINTENANCE - FREIGHT FOR 4-AL
03/31/03	11,053.50	SOUTHWEST GROUND WATER - PUMP TESTING
03/31/03	23,168.42	CH2OICE PUMP INC - PIPE & INNER COLUMN
04/11/03	3,652.00	DANA KEPNER CO - FLANGE TUBER METER
04/11/03	6,264.74	DANA KEPNER CO - 12" CHECK VALVE FOR 4-AL
04/21/03	1,277.55	DANA KEPNER CO - 4" VACUUM RELEASE VALVE
04/24/03	42,328.15	CH2OICE PUMP INC - ELECTROC MOTOR, FLOWS
7/1/2003	2,111.80	Southern Ground Water
5/31/2003	2,885.00	Thayne Excavating
6/23/2003	485.00	Thayne Excavating
10/13/2003	485.00	Thayne Excavating
10/31/2003	1,165.00	Thayne Excavating
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7/1/2003	2,111.80	Southern Ground Water

CH2OICE PUMP INC
PO BOX 215
BUCKEYE, AZ 85326



Invoice

Customer No.: LPSCO
Invoice No.: 11642

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE WELL #4

Date		Ship Via		F.O.B.		Terms				
01/24/03				Origin		UPON RECEIPT				
Purchase Order Number			Order Date		Sales Person		Our Order Number			
			01/24/03		ROB ZEIDLER		C23-008			
Quantity			Item Number		Description		Unit Price		Amount	
Required Shipped B.O.										
1					LABOR & MATERIALS TO		7500.00		7500.00	

1	1	LABOR & MATERIALS TO INSTALL, 3 PATCHES 302', 305', 356'	7500.00	7500.00
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NEW Well

		SONAR JET WELL 150 FT 405 TO 555	2100.00	2100.00
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		TV WELL AFTER PATCH	0.00	0.00
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Invoice subtotal	9600.00
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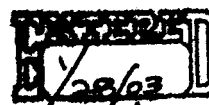
Sales tax @ 5.300%	393.12
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Sales tax @ 0.020%	1.25
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Invoice total	9994.37
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PAYMENT AUTHORIZATION	
APPROVAL <i>Math Paulik</i>	
DATE <i>01/28/03</i>	
AMOUNT TO PAY <i>\$9994.37</i>	
CODING <i>4A</i>	
<i>100-000-115900</i>	<i>9994.37</i>
<i>PO# 7130</i>	

Ch2oice Pump Inc.
Po Box 5757
Goodyear, AZ 85338
(623) 925-2525



NEW

LEGEND**Technical Services of Arizona, Inc.**17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 324-6100 • fax (602) 324-6101**INVOICE**

1/22/03

092924

1

SOLD TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd. Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

SHIP TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd. Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

TOTAL DUE**3207.00**

987653

0212-10719

NET 30 DAYS

Item#	Description	Qty	Unit	Unit-Price	Ext-price
CALC.	Nitrogen as Nitrate	5	EACH	0.00	0.00
SM 2320B	Total Alkalinity (as CaCO3)	5	EACH	14.40	72.00
EPA 300.0	Chloride	5	EACH	24.00	120.00
SM 2510B	Conductivity	5	EACH	18.00	90.00
SM 4500-FC	Fluoride	5	EACH	24.00	120.00
EPA 350.1	Nitrogen as Ammonia	5	EACH	36.00	180.00
SM4500N02B	Nitrogen as Nitrite	5	EACH	15.00	75.00
SM 4500-N03 F	Nitrate plus Nitrite	5	EACH	15.00	75.00
EPA 150.1	pH	5	EACH	12.00	60.00
EPA 300.0	Sulfate	5	EACH	24.00	120.00
SM4500 CNE	Cyanide, Total	5	EACH	66.00	330.00
SM 2540C	Total Dissolved Solids	5	EACH	18.00	90.00
EPA 180.1	Turbidity	5	EACH	18.00	90.00
EPA 200.9	Metals Digestion for GFAA	5	EACH	0.00	0.00
EPA 200.9	Arsenic, Dissolved	5	EACH	21.00	105.00
EPA 200.7	Barium	5	EACH	13.50	67.50
EPA 200.7	Beryllium	5	EACH	13.50	67.50
EPA 200.7	Calcium	5	EACH	13.50	67.50
EPA 200.7	Cadmium	5	EACH	13.50	67.50
EPA 200.7	Chromium	5	EACH	13.50	67.50
	Filtration for Diss Metals	5	EACH	15.00	75.00
SM 2340B	Hardness, Total (Ca & Mg)	5	EACH	7.50	37.50
EPA 245.1	Mercury	5	EACH	40.00	200.00
EPA 200.7	Potassium	5	EACH	13.50	67.50
EPA 200.7	Magnesium	5	EACH	13.50	67.50
EPA 200.7	Sodium	5	EACH	13.50	67.50
EPA 200.7	Nickel	5	EACH	13.50	67.50

***** CONTINUED ON NEXT PAGE *****

WE ACCEPT VISA or MASTERCARD



SALE TOTAL

INVOICE TOTAL

DEPOSIT

BALANCE DUE

06-08-09;11:01AM;

;602 324 6101

3/ 5

LEGEND**Technical Services of Arizona, Inc.**17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 324-6100 • fax (602) 324-6101**INVOICE**

1/22/09

092924

2

SOLD TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

SHIP TO

LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

TOTAL DUE**3207.00**

987653

0212-10719

NET 30 DAYS

Item#	Description	Qty	Unit	Unit-Price	Ext-price
EPA 200.9	Lead	5	EACH	21.00	105.00
EPA 200.9	Antimony	5	EACH	21.00	105.00
EPA 200.9	Selenium	5	EACH	21.00	105.00
EPA 200.9	Thallium	5	EACH	21.00	105.00
EPA 200.7	Metals Digestion for ICP	5	EACH	24.00	120.00
EPA 320.1	Bromide	5	EACH	36.00	180.00

WE ACCEPT VISA or MASTERCARD



SALE TOTAL

3,207.00

INVOICE TOTAL
DEPOSIT

BALANCE DUE

3,207.00

06-08-09;11:01AM;

;602 324 6101

4/ 5

LEGEND

Technical Services of Arizona, Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 324-6100 • fax (602) 324-6101**INVOICE**

1/22/03

092925

1

SOLD TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

SHIP TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

TOTAL DUE

2565.60

987653	0212-10785	NET 30 DAYS
--------	------------	-------------

Item#	Description	Qty	Unit	Unit-Price	Ext-price
CALC.	Nitrogen as Nitrate	4	EACH	0.00	0.00
SM 23208	Total Alkalinity (as CaCO3)	4	EACH	14.40	57.60
EPA 300.0	Chloride	4	EACH	24.00	96.00
SM 25108	Conductivity	4	EACH	18.00	72.00
SM 4500-FC	Fluoride	4	EACH	24.00	96.00
EPA 350.1	Nitrogen as Ammonia	4	EACH	36.00	144.00
SM4500N02B	Nitrogen as Nitrite	4	EACH	15.00	60.00
SM 4500-N03 F	Nitrate plus Nitrite	4	EACH	15.00	60.00
EPA 150.1	pH	4	EACH	12.00	48.00
EPA 300.0	Sulfate	4	EACH	24.00	96.00
SM4500 CNE	Cyanide, Total	4	EACH	66.00	264.00
SM 2540C	Total Dissolved Solids	4	EACH	18.00	72.00
EPA 180.1	Turbidity	4	EACH	18.00	72.00
EPA 200.9	Metals Digestion for GFAA	4	EACH	0.00	0.00
EPA 200.9	Arsenic, Dissolved	4	EACH	21.00	84.00
EPA 200.7	Barium	4	EACH	13.50	54.00
EPA 200.7	Beryllium	4	EACH	13.50	54.00
EPA 200.7	Calcium	4	EACH	13.50	54.00
EPA 200.7	Cadmium	4	EACH	13.50	54.00
EPA 200.7	Chromium	4	EACH	13.50	54.00
	Filtration for Diss Metals	4	EACH	15.00	60.00
SM 2340B	Hardness, Total (Ca & Mg)	4	EACH	7.50	30.00
EPA 245.1	Mercury	4	EACH	48.00	192.00
EPA 200.7	Potassium	4	EACH	13.50	54.00
EPA 200.7	Magnesium	4	EACH	13.50	54.00
EPA 200.7	Sodium	4	EACH	13.50	54.00
EPA 200.7	Nickel	4	EACH	13.50	54.00

***** CONTINUED ON NEXT PAGE *****

WE ACCEPT VISA or MASTERCARD



SALE TOTAL

INVOICE TOTAL
DEPOSIT

BALANCE DUE

06-08-09;11:01AM;

602 324 6101

INVOICE

LEGEND

Technical Services of Arizona, Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 324-6100 • fax (602) 324-6101

1/22/03 092925 2

SOLD TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

SHIP TO LPSCO (Litchfield Park Svc Co)
111 W. Wigwam Blvd, Suite B
Litchfield Park, AZ 85340

Attn: Matthew Garlick

TOTAL DUE 2565.60

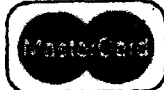
987653

0212-10785

NET 30 DAYS

Item#	Description	Qty	Unit	Unit-Price	Ext-price
EPA 200.9	Lead	4	EACH	21.00	84.00
EPA 200.9	Antimony	4	EACH	21.00	84.00
EPA 200.9	Selenium	4	EACH	21.00	84.00
EPA 200.9	Thallium	4	EACH	21.00	84.00
EPA 200.7	Metals Digestion for ICP	4	EACH	24.00	96.00
EPA 320.1	Bromide	4	EACH	36.00	144.00

WE ACCEPT VISA or MASTERCARD



SALE TOTAL

2,565.60

INVOICE TOTAL
DEPOSIT

BALANCE DUE

2,565.60

02/05/2003 07:23 FAX 6239372339

ANIZORA MAINTENANCE LLC.

0004

ANIZORA MAINTENANCE LLC

6503 N. 80TH AVE
 GLENDALE, AZ 85303-3323
 623-937-2339 OFFICE / FAX
 623-594-0749 CELLULAR

INVOICE

INVOICE NUMBER: 03-004

INVOICE DATE: 2/3/03

PAGE: 1

SOLD TO: LITCHFIELD PARK SERVICE COMPANY
 111 W. WIGWAM BLVD.
 SUITE B
 LITCHFIELD PARK, AZ 85340

SHIP TO: LPSCO 4-AL

FEB - 5 2003

CUSTOMER ID	CUSTOMER PO	PAYMENT TERMS
LPSCO	VERBAL	Net 30 Days
SALES REP ID	SHIPPING METHOD	SHIP DATE
	Hand Deliver	3/5/03

QUANTITY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	EXTENSION
12.00		LABOR TO FORM AND FINISH	65.00	780.00
3.00		CU YDS OF CONCRETE	95.00	285.00

LABOR AND MATERIALS TO RAISE
 WELLHEAD AT 4-AL.
 WELLHEAD WILL MEET OR EXCEED ADEQ
 BULLETIN # 10 STDS.

PAYMENT AUTHORIZATION

APPROVAL *Matthew Daulton*

DATE 02/04/03

AMOUNT TO PAY \$1,065.00

CODING

100-000-1159-00

*

1065.00

*

*

*

Subtotal

1,065.00

Sales Tax

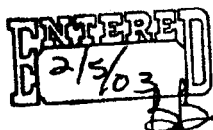
Total Invoice Amount

\$1,065.00

Payment Received

TOTAL DUE

\$1,065.00



Check No:

02/ 03 07:23 FAX 6239372339

ANIZORA MAINTENANCE LLC.

002

ANIZORA MAINTENANCE LLC

6503 N. 80TH AVE
 GLENDALE, AZ 85303-3323
 623-937-2338 OFFICE / FAX
 623-694-0749 CELLULAR

INVOICE

PAYMENT AUTHORIZATION

NUMBER: 03-012

APPROVAL Matthew E. Saich INVOICE DATE: 2/4/03DATE 02/05/03AMOUNT TO PAY \$12,631.29

PAGE: 1

CODING

100-000-1159-00

SHIP TO: LPSCO WELL 4-BL

FEB - 5 2003

SOLD TO: LITCHFIELD PARK SERVICE COMPANY
 111 W. WIGWAM BLVD.
 SUITE B
 LITCHFIELD PARK, AZ 85340

4AL

CUSTOMER ID		CUSTOMER PO	PAYMENT TERMS	
LPSCO		VERBAL MATTHEW	Net 30 Days	
SALES REP ID		SHIPPING METHOD	SHIP DATE	DUE DATE
GREG R FROEHLING		Hand Deliver	3/26/03	3/6/03
QUANTITY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	EXTENSION
2.00		PROCO FLEX COUPLING	306.00	612.00
2.00		12 X 4 X 12 TEE	371.00	742.00
2.00		4 INCH PLUG VALVES	261.00	522.00
1.00		AIR VACUUM RELEASE VALVE	1,206.00	1,206.00
1.00		AIR RELEASE VALVE	621.00	621.00
1.00		BERMAD NON-SLAM CHICK VALVE 760-03	6,130.00	6,130.00
4.00		12 INCH QUICK FLANGES	70.40	281.60
1.00		12 INCH TEE	344.75	344.75
1.00		12 X 6 ECCENTRIC REDUCER	288.85	288.85
1.00		6 INCH BUTTERFLY VALVE W/ HANDWHEEL OPERATOR	386.00	386.00
1.00		12 INCH BUTTERFLY VALVE W/ HANDWHEEL OPERATOR	834.00	834.00
8.00		12 INCH BOLT AND GASKET KIT	23.00	184.00
2.00		6 INCH BOLT AND GASKET KIT	9.05	18.10
6.00		4 INCH GASKET AND BOLT KIT	6.12	36.72
1.00		12 X 2 TAPPING SADDLE	93.00	93.00
1.00		12 X 1 TAPPING SADDLE	81.67	81.67

ENTERED
 2/5/03

Check No:

Subtotal	Continued
Sales Tax	Continued
Total Invoice Amount	Continued
Payment Received	
TOTAL DUE	Continued

02/05/2003 07:23 FAX 6239372339

ANIZORA MAINTENANCE LLC.

0003

ANIZORA MAINTENANCE LLC6503 N. 80TH AVE
GLENDALE, AZ 85303-3323
623-937-2339 OFFICE / FAX
623-694-0749 CELLULAR**INVOICE**

INVOICE NUMBER: 03-012

INVOICE DATE: 2/4/03

PAGE: 2

SOLO TO: LITCHFIELD PARK SERVICE COMPANY
111 W. WIGWAM BLVD.
SUITE B
LITCHFIELD PARK, AZ 85340

SHIP TO: LPSCO WELL 4-AL

CUSTOMER ID		CUSTOMER PO		PAYMENT TERMS	
LPSCO		VERBAL MATTHEW		Net 30 Days	
SALES REP ID		SHIPPING METHOD		SHIP DATE	DUE DATE
GREG R FROEHLING		Hand Deliver		3/26/03	3/6/03
QUANTITY	ITEM NUMBER	DESCRIPTION		UNIT PRICE	EXTENSION
1.00		20 FT PC PC350 12 INCH DI PIPE		249.60	249.60
		EQUIPMENT AND HARDWARE FOR LPSCO			
		WELL 4-AL			
		LEAD TIME FOR SOME ITEMS MAY BE			
		AS LONG AS 6 WEEKS!			

Subtotal	12,631.29
Sales Tax	
Total Invoice Amount	\$12,631.29
Payment Received	
TOTAL DUE	\$12,631.29

Check No:

CH2OICE PUMP INC
PO BOX 215
BUCKEYE, AZ 85326

FEB 19 2003

Invoice

Customer No.: LPSCO
Invoice No.: 11847

Bill To: LPSCO
111 W. WGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: WELL 4 AL

Date		Ship Via		F.O.B.		Terms		
02/18/03				Origin		UPON RECEIPT		
Purchase Order Number			Order Date		Sales Person		Our Order Number	
			02/18/03		ROB ZEIDLER		C23-008	
Quantity			Item Number	Description	Unit Price	Amount		
Required	Shipped	B.O.						
1	1			INSTALL 2 PATCH 255 & 338	3575.00	3575.00		
1	1			INSTALL 1 PATCH 2/16/03	2400.00	2400.00		

Invoice subtotal 5975.00
Sales tax @ 6.300% 244.68
Invoice total 6219.68

PAYMENT AUTHORIZATION	
APPROVAL	<i>Matt Sauls</i>
DATE	02/20/03
AMOUNT TO PAY	\$6,219.68
100-000-1159-00 • 8219.68	

4-AL

PAID
2/20/03

Rosemount Inc.

SEND INVOICE INQUIRIES TO:

Rosemount Inc.
12001 Technology Drive
Eden Prairie, MN 55344 USA
Tel. 1 (952) 828-3700
Fax. 1 (952) 828-3737
E-mail: EP.RMD-Accounts-Receivable@EmersonProcess.com

FEB 24 2003

INVOICE

Bill To: ATTN: ACCOUNTS PAYABLE
LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD STE B
LITCHFIELD PARK, AZ 85340-4636
US

INVOICE DATE 18-FEB-03 INVOICE NUMBER 1966586

PLEASE REMIT PAYMENT TO

ROSEMOUNT INC
PO BOX 70114
CHICAGO, IL 60673-0114

PAYMENT TERMS NET 30 DAYS PAYMENT DUE 20-MAR-03

CUSTOMER P.O. NUMBER 7134

BUYER CONDE SLUGA PAGE 1 of 1

SHIP TO: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD STE B
LITCHFIELD PARK, AZ 85340-4636
US

1152045 RTC FACTORY RTC AIRBORNE

PREPAID AND ADD 3634337265 18-FEB-03

1	1	2088G2S22A1M5B480 Pressure Transmitter Eccn # Schedule B# 9025.20.0000	1 EACH	1,122.00	1,122.00
2	2	Serial Nos 0239883 0306RT12AA11 INTEGRAL MANIFOLD Eccn # Schedule B# 9025.20.0000	1 EACH	100.00	100.00

Notes:

Please email comments regarding the quality of Rosemount products, services or processes to:
Chan.RMD-CustomerFeedback@EmersonProcess.com.
THESE COMMODITIES ARE INTENDED FOR USE WITHIN THE UNITED STATES. ALL EXPORTS MUST BE MADE IN ACCORDANCE WITH U.S. LAW.

Sub Total
Freight Charges
Tax

ENTERED
2/25/03

\$1,222.00
\$13.45
\$68.43

Gross Weight 9 LB No of Packages 1

Original Invoice

order is subject to the "Terms and Conditions of Sale" on the back of this page. Seller hereby certifies that the goods manufactured by it were produced in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor as issued under Section 14 thereof.

TOTAL AMOUNT

\$1,303.88

FORM NO. 68074 REV. K

Rosemount Inc.

SEND INVOICE INQUIRIES TO:

Rosemount Inc.
12001 Technology Drive
Eden Prairie, MN 55344 USA
Tel. 1 (952) 828-3700
Fax. 1 (952) 828-3737
E-mail: EP.RMD-Accounts-Recalvable@EmersonProcess.com

FEB 24 2003

INVOICE

Bill To: ATTN: ACCOUNTS PAYABLE
LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD STE B
LITCHFIELD PARK, AZ 85340-4636
US

Ship To: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD STE B
LITCHFIELD PARK, AZ 85340-4636
US

INVOICE DATE	18-FEB-03	INVOICE NUMBER	1966586
PLEASE REMIT PAYMENT TO			
ROSEMOUNT INC PO BOX 70114 CHICAGO, IL 60673-0114			
PAYMENT TERMS		PAYMENT DATE	
NET 30 DAYS		20-MAR-03	
CUSTOMER P.O. NUMBER 7134			
BUYER		PAGE	
CONDE SLUGA		1 of 1	

ROSEMOUNT ORDER NO.	1152045	TRADE TERMS	RTC FACTORY	SHIPPED VIA	RTC AIRBORNE
PREPAID AND ADD			3634337265	DATE SHIPPED 18-FEB-03	

QTY	UNIT	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
1	1	2088G2S22A1M5B4S5 Pressure Transmitter Eccn # Schedule B# 9026.20.0000	1 EACH	1,122.00	1,122.00
2	2	Serial Nos 0239883 0306RT12AA11 INTEGRAL MANIFOLD Eccn # Schedule B# 9026.20.0000	1 EACH	100.00	100.00
Notes:					
Please email comments regarding the quality of Rosemount products, services or processes to: Chan.RMD-CustomerFeedback@EmersonProcess.com. THESE COMMODITIES ARE INTENDED FOR USE WITHIN THE UNITED STATES. ALL EXPORTS MUST BE MADE IN ACCORDANCE WITH U.S. LAW.					
Sub Total					\$1,222.00
Freight Charges					\$13.45
Tax					\$68.43
Gross Weigh 9 LB No of Packages 1					
Invoice Copy					

Order is subject to the "Terms and Conditions of Sale" on the back of this page. Seller hereby certifies that the goods manufactured by or were produce in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor as issued under Section 14 thereof.

TOTAL AMOUNT	\$1,303.88
--------------	------------

FORM NO. 02074 REV. K

EMERSON.

Process Management

Rosemount Inc.
8200 Market Boulevard
Chanhassen, MN 55317 USA
Within the US: 1 (800) 998-9307
Outside the US: 1 (952) 949-7000
Fax: 1 (952) 949-7001

**FEB 18 2003 CUSTOMER
ACKNOWLEDGEMENT**

CUSTOMER PURCHASE ORDER NUMBER 7134	ROSEMOUNT ORDER NUMBER 1152045	PAYMENT TERMS NET 30 DAYS
---	--	-------------------------------------

Acknowledge to: LITCHFIELD PARK SERVICE CO 111 W WIGWAM BLVD STE B	Ship to: LITCHFIELD PARK SERVICE 111 W WIGWAM BLVD STE B	Bill to: LITCHFIELD PARK SERVICE 111 W WIGWAM BLVD STE B
--	--	--

CONDE SLUGA (623) 935 1020	FREIGHT TERMS PREPAID AND ADD	SHIPPING POINT EXW SHIPPING POINT	SALES TAX Y
----------------------------	----------------------------------	--------------------------------------	----------------

CONTACT OUR REPRESENTATIVE WITH ANY QUESTIONS BERG, KRISTIN	ULTIMATE DESTINATION United States	SHIP PARTIAL Yes
--	---------------------------------------	---------------------

THANK YOU FOR YOUR ORDER

CUST. Q. ITEM	PART ITEM	DESCRIPTION	QTY.	SCHEDULED SHIP DATE	UNIT PRICE	EXTENDED PRICE
1	1	2088G2S22A1M5B4S5 Pressure Transmitter Cust Ref Ship from: MINNEAPOLIS, MN Ship via RTC AIRBORNE Tag Calibration 0 to 100 PSI	1	02/25/03 Eccn # EAR99 Schedule B# 9026.20.0000	\$1,122.00	\$1,122.00
2	2	0306RT12AA11 INTEGRAL MANIFOLD Cust Ref Ship from: MINNEAPOLIS, MN Ship via RTC AIRBORNE Tag Calibration	1	02/25/03 Eccn # EAR99 Schedule B# 8481.80.3090	\$100.00	\$100.00
<p>Please email comments regarding the quality of Rosemount products, services or processes to: Chan.RMD-CustomerFeedback@EmersonProcess.com.</p> <p>THESE COMMODITIES ARE INTENDED FOR USE WITHIN THE UNITED STATES. ALL EXPORTS MUST BE MADE IN ACCORDANCE WITH U.S. LAW.</p> <p><i>Newwell</i> <i>4-AL</i></p> <p>100-000-1159-00 100-000-1159-00</p> <p>Total : \$1,222.00</p>						

Rosemount Inc.

SEND INVOICE INQUIRIES TO:
 Rosemount, Inc.
 12001 Technology Drive
 Eden Prairie, MN 55344 USA
 Tel. 1 (952) 828-3700
 Fax 1 (952) 828-3737

Remit To:

ROSEMOUNT INC PO BOX 70114
 CHICAGO IL 60673-0114

To:

LITCHFIELD PARK SERVICE CO : 1296931
 111 W WIGWAM BLVD STE B
 LITCHFIELD PARK AZ 85340-4636

Statement

MAR - 7 2003

ANY QUESTIONS PLEASE CALL:

REBECCA ADKINS
 ACCOUNTS RECEIVABLE
 PHONE 952-828-3725
 FAX 952-828-3737
 rebecca.adkins@emersonprocess.com

Page 1

STATEMENT DATE	CUSTOMER NO.
28-FEB-03	62765

INVOICE NO.	DATE	TRANSACTION	DUPLICATE	REFERENCE	DATE TO LOCATION	TRANSACTION AMOUNT	AMOUNT DUE
1966586	18-FEB-03	Invoice		7134	1296931	1,303.88	1,303.88
ROSEMOUNT THANKS YOU FOR YOUR BUSINESS!							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>PAYMENT AUTHORIZATION</p> <p>APPROVAL <i>[Signature]</i></p> <p>DATE <u>3-13-04</u></p> <p>AMOUNT TO PAY <u>1303.88</u></p> <p>PREPARE <u>5/14/03</u></p> <p>CODING <u>444</u></p> </div> <div style="width: 45%; text-align: right;"> <p><i>3/14/03</i></p> <p><i>[Signature]</i></p> <p>ENTERED</p> </div> </div>							
Current	1-30 Days	31-60 Days	61-90 Days	Over 90 Days			
1,303.88	0.00	0.00	0.00	0.00	0.00	USD	1,303.88

1.50%

18.00%

FORM NO. 63879 REV. H

Yardney

MAR - 5 2003

 INVOICE NUMBER: 0029699-IN
 INVOICE DATE: 02/28/03

WATER MANAGEMENT SYSTEMS, INC.

 6666 BOX SPRINGS BLVD.
 RIVERSIDE, CALIFORNIA 92507-0736
 (909) 656-6716 • FAX (909) 656-3867
 FED. TAX I.D. 33-0425578

 ORDER NUMBER: 0028873
 ORDER DATE: 01/30/03
 SALESPERSON: 0027
 CUSTOMER NO: 0002025

 SOLD TO:
 LITCHFIELD PARK SERVICE CO
 111 W. WIGWAM BLVD., SUITE B
 LITCHFIELD PARK AZ 85340

 SHIP TO:
 LITCHFIELD PARK SERVICE CO
 4019 NORTH DYSART RD.
 S.E. CORNER
 AVONDALE AZ 85323

 CONFIRM TO:
 MATTHEW - GREG FROEHLING

CUSTOMER P.O.	SHIP VIA	F.O.B	TERMS
7130	FED EX FRT PPA	RIVERSIDE, CA	NET 30 DAYS
9700001107	EA 1 D	1 D	0 D
SEPARATOR PCS-100-H W/12" IN/O	WHSE: 000		6,364.000 6,364.00
144025200	EA 2	2	0
GAUGE, SS, 2-1/2" LIQUID FILL	WHSE: 000		
275001107	EA 1	1	0
SEPARATOR PCS-100-H W/12" IN/O	WHSE: 000		

 4AL
 Budget

PAYMENT AUTHORIZATION	
APPROVAL	<i>Mark Daulton</i>
DATE	03/05/03
AMOUNT TO PAY	\$6,864.00
ISSUED	
ENDING	
100-000-1159-00	6864.00

All past due accounts subject to service charge of 1.5% per month (18% per annum).

In case of default in payment, purchaser agrees to pay seller all costs of collection including reasonable attorney fees and all court costs incurred by the seller in the repossession of the above items or collection of the amount due.

 NET INVOICE: 6,364.00
 LESS DISCOUNT: .00
 FREIGHT: 500.00
 SALES TAX: .00

INVOICE TOTAL: 6,864.00

ORIGINAL

ANIZORA MAINTENANCE LLC

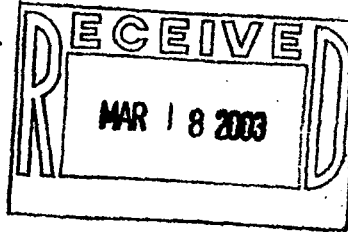
6503 N. 80TH AVE
 GLENDALE, AZ 85303-3323
 623-937-2339 OFFICE / FAX
 623-694-0749 CELLULAR

INVOICE

INVOICE NUMBER: 03-017

INVOICE DATE: 3/14/03

PAGE: 1



SOLD TO: LITCHFIELD PARK SERVICE COMPANY
 111 W. WIGAM BLVD.
 SUITE B
 LITCHFIELD PARK, AZ 85340

SHIP TO: 4 -AL

CUSTOMER ID	CUSTOMER PO	PAYMENT TERMS
-------------	-------------	---------------

LPSCO

VERBAL MATTHEW G

Net 30 Days

SALES REP ID	SHIPPING METHOD	SHIP DATE	DUE DATE
--------------	-----------------	-----------	----------

GREG R FROEHLING

Hand Deliver

3/14/03

4/13/03

QUANTITY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	EXTENSION
----------	-------------	-------------	------------	-----------

1.00

FREIGHT FOR 4-AL PARTS

469.61

469.61

FREIGHT CHARGES WERE NOT ON THE
 ORIGINAL INVOICE 03-012 AS QUOTED
 FROM DANA KEPNER.

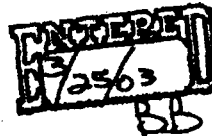
PAYMENT AUTHORIZATION

 APPROVAL Mat Salik

 DATE 03/23/03

 AMOUNT TO PAY \$469.61

CODING _____

100-000-1159-00 469.61


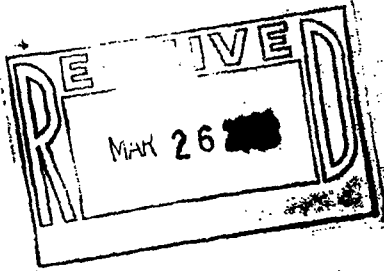
JOB
 03-13

Subtotal	469.61
Sales Tax	
Total Invoice Amount	\$469.61
Payment Received	
TOTAL DUE	\$469.61

Check No:

ANIZORA MAINTENANCE LLC

6503 N. 80TH AVE
 GLENDALE, AZ 85303-3323
 623-937-2339 OFFICE / FAX
 623-894-0749 CELLULAR


INVOICE

INVOICE NUMBER: 03-010

INVOICE DATE: 3/25/03

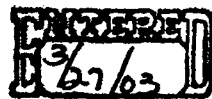
PAGE: 1

SOLD TO: LITCHFIELD PARK SERVICE COMPANY
 111 W. WIGWAM BLVD.
 SUITE B
 LITCHFIELD PARK, AZ 85340

SHIP TO: PALM VALLEY WRF
 C/O LPSCO

CUSTOMER ID		CUSTOMER PO		PAYMENT TERMS	
LPSCO		VERBAL MATTHEW G		Net 30 Days	
SALES REP ID		SHIPPING METHOD		SHIP DATE	DUE DATE
GREG R FROEHLING		Hand Deliver		3/25/03	4/24/03
QUANTITY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	EXTENSION	
1.00		SECURITY CAGE PARTS AND MATERIALS	826.33	826.33	
6.00		LABOR TO INSTALL	65.00	390.00	

PAYMENT AUTHORIZATION	
APPROVAL	<i>Matt Barber</i>
DATE	03/26/03
AMOUNT TO PAY	\$1,317.29
CODING	
200-100-6362-02	131729
200-000-1011-00	
WRT	



Check No:

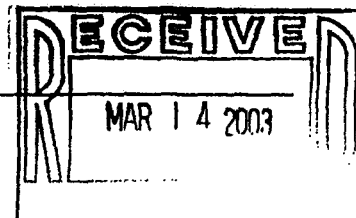
bb

Subtotal	1,216.33
Sales Tax	100.96
Total Invoice Amount	\$1,317.29
Payment Received	
TOTAL DUE	\$1,317.29



Southwest Ground-water Consultants, Inc.

INVOICE



March 12, 2003

TO: Mr. Matthew E. Garlick
Technical Services Supervisor
Litchfield Park Service Company
111 West Wigwam Blvd., Suite B
Litchfield Park, Arizona 85340

SUBJECT: Airline Wellfield Well 4AL
(SGC Project No. 675)

AUTHORIZATION: Mr. Matthew E. Garlick (Agreement dated December 4,
2002). Signed December 13, 2002

INVOICE NO: B.675-1

PERIOD: through February 28, 2003

Completed pump testing and downhole logging and sampling of well 4AL. Initiated final well report.

Senior Hydrogeologist (SN)	8.5 hrs @ \$105/hr	\$892.50
Staff Hydrologist (NM)	16.0 hrs @ \$80/hr	\$1,280.00
Staff Hydrologist (VE)	23.0 hrs @ \$65/hr	\$1,495.00
Technical Support (GL)	23.0 hrs @ \$55/hr	\$1,265.00
Expenses:		
Downhole logger (\$3,066.5 + \$2,785.00)		\$5,851.50
Field Equipment (\$185 + \$84.5)		\$269.50

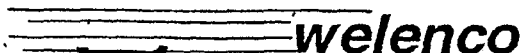
TOTAL AMOUNT DUE

\$11,053.50

PAYMENT AUTHORIZATION	
APPROVAL	<i>Matt Garlick</i>
DATE	04/01/03
AMOUNT TO PAY	\$11,053.50
CODING	100-000-1159-00 • 11053.50
3900 East Camelback Road, #200	
Phoenix, Arizona 85018-2636	
(602) 966-5547 Fax (602) 935-7585	



Prescott, Arizona
Phoenix, Arizona



5201 WOODMERE DRIVE BAKERSFIELD, CA 93313-2770
(661) 834-8100

INVOICE NO.

36539

CHARGE TO:

SOUTHWEST GROUNDWATER
3900 E CAMELBACK RD #200
PHOENIX, AZ 85018-2636
(602) 955-5547

JOB LOCATION:

SOUTHWEST GROUNDWATER
REQUESTED BY GARY LAWRENCE
WELL #4 AC
LOC: SUN CITY, E EL MIRAGE

Page 1

(602) 955-5547

COUNT NO.	SALES OFFICE	JOB TICKET #	PURCHASE ORDER #	JOB DATE	TERMS	INVOICE DATE
S-206	DI	36539		12/17/02	NET 30	12/20/02

ITEM NO.	QUANTITY	ITEM NO.	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	1	330504	SERVICE CHARGE	525.00	525.00
1	1	337004	ASCII WELL DATA DISK	30.00	30.00
1	1	331724	SPINNER LOGS	1111.50	1111.50
8	8	331744	DEPTH SPECIFIC SAMPLES	175.00	1400.00

PAID

CK NO. 8206

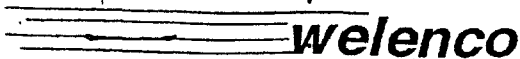
DATE 1/22/03

we pay from this invoice. Interest will be charged on all
due amounts at the rate of 1 1/2% per month.
***ANY BILLING CHANGE TO INVOICE MUST
BE IN WRITING TO BAKERSFIELD OFFICE***

Thank You

3066.50

3066.50



5201 WOODMERE DRIVE BAKERSFIELD, CA 93313-2770
(661) 834-8100

INVOICE NO.

INVOICE
36540

CHARGE TO: SOUTHWEST GROUNDWATER
3900 E CAMELBACK RD #200
PHOENIX, AZ 85018-2636
(602) 955-5547

JOB LOCATION: SOUTHWEST GROUNDWATER
REQUESTED BY GARY LAWRENCE
WELL #4 AC
LOC: SUN CITY, AZ,
(602) 955-5547

Page 1

ACCOUNT NO.	SALES OFFICE	JOB TICKET #	PURCHASE ORDER #	JOB DATE	TERMS	INVOICE DATE	PAY
S-206	DI	36540		12/18/02	NET 30	12/20/02	

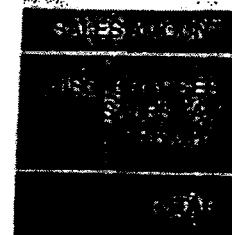
QTY ORDERED	QTY SHIPPED	ITEM NO.	DESCRIPTION	UNIT PRICE		EXTENDED PRICE
1	1	330504	SERVICE CHARGE	525.00	0	525.00
1	1	337004	EXCESS STANDBY TIME	160.00	0	160.00
12	12	331744	DEPTH SPECIFIC SAMPLES	175.00	0	2100.00

PAID

CK. NO. 8206
DATE 1/22/03

pay from this invoice. Interest will be charged on all
ue amounts at the rate of 1 1/4% per month.
*ANY BILLING CHANGE TO INVOICE MUST
IN WRITING TO BAKERSFIELD OFFICE***

Thank You



2785.00

2785.00

Field Expense Report

Date 12/17 + 12/18/02 Job Number B 659

Client LPSCD Job Name 4AL

MILEAGE

120 2 wheel drive miles @ \$0.50 per mile = \$ 60

0 4 wheel drive miles @ \$0.75 per mile = \$ 0 SUB-TOTAL \$ 60

METERS

pH, Temperature, Eh
1 days @ \$25 per day = \$ 25

Specific Conductivity
 days @ \$25 per day = \$

Dissolved Oxygen
 days @ \$25 per day = \$

Electronic Sounder
2 days @ \$50 per day = \$ 100

Other
 days @ \$ per day = \$ SUB-TOTAL \$ 125

SAMPLING EQUIPMENT

Disposable Bailers
 bailers @ \$10 per bailer = \$

Decontamination Equipment
 days @ \$20 per day = \$

Other
 days @ \$ per day = \$ SUB-TOTAL \$ 0

TOTAL \$ 185 ⁴⁰/₁₀₀

REMARKS

SGC Staff

Project Manager *Steve D. Hall*



Southwest Ground-water Consultants, Inc.

Field Expense Report

Date 12/12/02 Job Number 675
Client _____ Job Name YAL

MILEAGE

69 2 wheel drive miles @ \$0.50 per mile = \$ 34.5
_____ 4 wheel drive miles @ \$0.75 per mile = \$ _____ SUB-TOTAL \$ 34.5

METERS

pH, Temperature, Eh

_____ days @ \$25 per day = \$ _____

Specific Conductivity

_____ days @ \$25 per day = \$ _____

Dissolved Oxygen

_____ days @ \$25 per day = \$ _____

Electronic Sounder

1 days @ \$50 per day = \$ 50

Other

_____ days @ \$ _____ per day = \$ _____

SUB-TOTAL \$ 50

SAMPLING EQUIPMENT

Disposable Bailers

_____ bailers @ \$10 per bailer = \$ _____

Decontamination Equipment

_____ days @ \$20 per day = \$ _____

Other

_____ days @ \$ _____ per day = \$ _____

SUB-TOTAL \$ _____

TOTAL \$ 84.50

MARKS

SGC Staff J Escobar

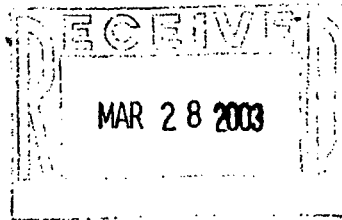
Project Manager Hyd-O-Mat



Southwest Ground-water Consultants, Inc.

CH2OICE PUMP INC
PO BOX 5757
GOODYEAR, AZ 85338

Invoice



Customer No.: LPSCO
Invoice No.: 11652

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

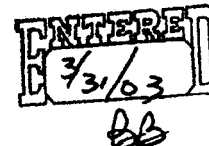
Ship To: WELL AIRLINE #4

Date		Ship To		P.O.B.		Terms	
03/27/03				Origin		UPON RECEIPT	
Purchase Order Number		Order Date		Sales Person		Our Order Number	
		03/27/03				C23-008	
QUANTITY			Item Number	Description	Unit Price	Amount	
Required	Shipped	E.O.					
27	27		10	10"X20' TAPER COLUMN PIPE	355.00	9585.00	
27	27		12	3"X1 15/16"X20' RH INNER COLUMN	422.00	11394.00	
3	3			10"X20' TAPER THICKWALL PIPE	426.00	1278.00	
Invoice subtotal						22257.00	
Sales tax @ 5.300%						311.42	
Invoice total						23168.42	

WE APPRECIATE YOUR CONTINUED PATRONAGE

PAYMENT AUTHORIZATION	
APPROVAL	<u>Matthew Darlick</u>
DATE	<u>03/28/03</u>
AMOUNT TO PAY	<u>\$ 23,168.42</u>
CODING	_____

	<u>100-000-1159-00</u> <u>23168.42</u>



Thank You

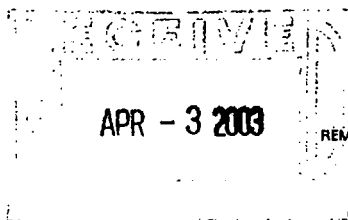


Dana Kepner Company, Inc.
Western Industrial Supply, LLC

INVOICE

CUST.#: 56490000

SHIP TO: LITCHFIELD PARK SERVICE CO
 111 W WIGWAM BLVD #B
 LITCHFIELD PARK, AZ 85340



REMIT TO: Dana Kepner Company, Inc.
 Dept. 281
 Denver, CO 80271-0281

UPC VENDOR	INVOICE DATE	ORDER NO.
000000	03/31/03	7075852-00
P.O. NO.		PAGE #
#01		1

BILL TO: LITCHFIELD PARK SERVICE CO
 111 W WIGWAM BLVD #B
 LITCHFIELD PARK, AZ 85340

INSTRUCTIONS			
alea			
SHIP POINT	SHIP VIA	SHIPPED	TERMS
Phoenix	Delivery	03/31/03	Net 30 Days

LINE NO.	PRODUCT AND DESCRIPTION	QUANTITY ORDERED	QUANTITY S.O.	QTY SHIPPED	QTY U/M	UNIT PRICE	AMOUNT (NET)

*** PLEASE NOTE ***							
*** Call Conde at (623) 757-2315 ***							
*** or (623) 935-9367 ***							
*** BEFORE delivery ***							
*** DO NOT deliver during lunch hour ***							
*** Between 11:30 am & 1:00 pm ***							

* INVOICE FOR NON-STOCK MATERIAL ORDERED BUT NOT NEEDED * CREDIT TO BE ISSUED WHEN CREDIT RECEIVED FROM MANUFACTURER							

1	7ML0308NS 8"ML-03 150PSI FLANGED TUBE METER GAL READ	2	0	2	each	1800.00	3600.00
2	301208R 12X8" FLGD CONCENTRIC REDUCER, 125#	4	0	0	PCS	347.60	0.00
3	43D08FLH 8" FLGD RW DI OL VALVE W/HANDWHEEL	2	0	0	PCS	832.77	0.00
4	86FBPCI088K 8" CIFF GASKET 1/8" & PLATED BOLT PACK	4	0	0	PCS	14.64	0.00
5	86FBPCI128K 12" CIFF GASKET 1/8" & PLATED BOLT PACK	2	0	0	PCS	36.75	0.00
5	Lines Total	Qty Shipped Total		2	Total	3600.00	

Continued

Dana Kepner Co., Inc./Western Industrial Supply, LLC. standard terms and conditions apply. All returns must be approved and in full saleable condition. Returns will be subject to a restocking charge. Service charges will be applied to invoices that are not paid within terms.



Dana Kepner Company, Inc.
Western Industrial Supply, LLC

INVOICE

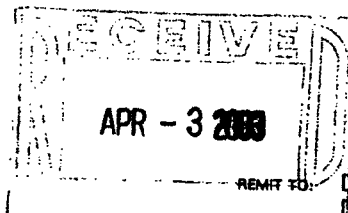
CUST.#: 56490000

SHIP TO: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD #B

LITCHFIELD PARK, AZ 85340

BILL TO: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD #B

LITCHFIELD PARK, AZ 85340



UPC VENDOR	INVOICE DATE	ORDER NO.
000000	03/31/03	7075852-00
P.O. NO.		PAGE #
#01		2

REMIT TO: Dana Kepner Company, Inc.
Dept. 281
Denver, CO 80271-0281

INSTRUCTIONS			
alem			
SHIP POINT	SHIP VIA	SHIPPED	TERMS
Phoenix	Delivery	03/31/03	Net 30 Days

LINE NO.	PRODUCT AND DESCRIPTION	QUANTITY ORDERED	QUANTITY S.O.	QTY SHIPPED	QTY U/M	UNIT PRICE	AMOUNT (NET)
						Freight In	52.00
						Invoice Total	3652.00
<div><p>PAYMENT AUTHORIZATION</p><p>APPROVAL <u>Mart Buelch</u></p><p>DATE <u>4/1/03</u></p><p>AMOUNT TO PAY <u>\$3,652.00</u></p><p>CODING _____</p><p><u>100-000-1159-00</u> <u>3652.00</u></p></div> <div><p>4AL P.C.</p></div> <div><p>ENTERED 4/21/03</p></div>							

Last Page

Dana Kepner Co., Inc./Western Industrial Supply, LLC. standard terms and conditions apply. All returns must be approved and in full saleable condition. Returns will be subject to a restocking charge. Service charges will be applied to invoices that are not paid within terms.



Dana Kepner Company, Inc.
Western Industrial Supply, LLC

INVOICE

CUST. #: 56490000

SHIP TO: LITCHFIELD PARK SERVICE CO
111 W WIGAM BLVD #8

LITCHFIELD PARK, AZ 85340

BILL TO: LITCHFIELD PARK SERVICE CO
111 W WIGAM BLVD #8

LITCHFIELD PARK, AZ 85340

APR - 7 2003

REMIT TO: Dana Kepner Company, Inc.
Dept. 281
Denver, CO 80271-0281

UPC VENDOR	INVOICE DATE	ORDER NO.
000000	04/03/03	7077641-00
P.O. NO.		PAGE #
verbal		1

INSTRUCTIONS			
alem			
SHIP POINT	SHIP VIA	SHIPPED	TERMS
Phoenix	Delivery	04/02/03	Net 30 Days

LINE NO.	PRODUCT AND DESCRIPTION	QUANTITY ORDERED	QUANTITY S.O.	QTY SHIPPED	QTY. UNIT	UNIT PRICE	AMOUNT
***** *** PLEASE NOTE *** *** Call Conde at (623) 757-2315 *** *** or (623) 935-9367 *** *** BEFORE delivery *** *** DO NOT deliver during lunch hour *** *** Between 11:30 am & 1:00 pm *** *****							
1	41VM120410438NS	1	1	0	each	1206.00	0.00
2	41VM76003VINS	1	0	1	each	6130.00	6130.00
3	12" 760-03-V-I CHECK VALVE W/POSTION IND.	1	0	1	each	0.00	0.00
3	DEL0721	1	0	1	each	0.00	0.00
3	DELIVERY ZONE 1						
3	Lines Total		Qty Shipped Total	2	Total		6130.00
					Freight In		134.74
					Invoice Total		6264.74

PAYMENT AUTHORIZATION

APPROVAL Mark Spelick

DATE 4/11/03

AMOUNT TO PAY 6,264.74

CODING 100-000-1159-00-626474

PAYMENT AUTHORIZATION

APPROVAL _____

DATE _____

AMOUNT TO PAY _____

CODING _____

ENTERED
4/11/03

7AL
P.O.

Last Page

Dana Kepner Co., Inc./Western Industrial Supply, LLC. standard terms and conditions apply. All returns must be approved and in full saleable condition. Returns will be subject to a restocking charge. Service charges will be applied to invoices that are not paid within terms.



Dana Kepner Company, Inc.
Western Industrial Supply, LLC

INVOICE

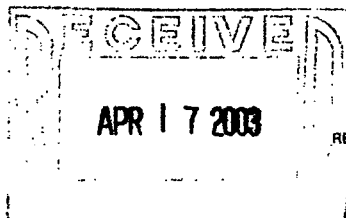
CUST.#: 56490000

SHIP TO: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD #B

LITCHFIELD PARK, AZ 85340

BILL TO: LITCHFIELD PARK SERVICE CO
111 W WIGWAM BLVD #B

LITCHFIELD PARK, AZ 85340



REMIT TO: Dana Kepner Company, Inc.
Dept. 281
Denver, CO 80271-0281

UPC VENDOR	INVOICE DATE	ORDER NO.
000000	04/16/03	7077641-01
P.O. NO.		PAGE #
verbal		1

INSTRUCTIONS			
alem			
SHIP POINT	SHIP VIA	SHIPPED	TERMS
Factory	Delivery	04/04/03	Net 30 Days

LINE NO.	PRODUCT AND DESCRIPTION	QUANTITY ORDERED	QUANTITY S.O.	QTY SHIPPED	QTY U/M	UNIT PRICE	AMOUNT (NET)
***** *** PLEASE NOTE *** *** *** Call Conde at (623) 757-2315 *** *** or (623) 935-9367 *** *** BEFORE delivery *** *** DO NOT deliver during lunch hour *** *** Between 11:30 am & 1:00 pm *** *** *****							
1	41VM120410438NS	1	0	1	each	1206.00	1206.00
4	4" AIR VACCU RELEASE VALVE VM1204/104/38	1	0	1	each	0.00	0.00
	DEL0721						
	DELIVERY ZONE 1						
2	Lines Total	Qty Shipped Total		2		Total	1206.00
						Freight In	71.55
						Invoice Total	1277.55

PAYMENT AUTHORIZATION

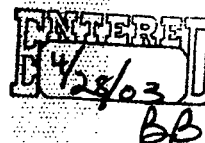
APPROVAL *Matt Dalish*

DATE *4/24/03*

AMOUNT TO PAY *\$1277.55*

CODING

100-000-1159-00 \$ *1277.55*



Last Page

Dana Kepner Co., Inc./Western Industrial Supply, LLC. standard terms and conditions apply. All returns must be approved and in full saleable condition. Returns will be subject to a restocking charge. Service charges will be applied to Invoices that are not paid within terms.

PO BOX 5757
GOODYEAR, AZ 85338

Invoice

Invoice No.: 11685

Ship To: AIRLINE #4
C23-008

4AL
weel
Equipment

PAYMENT AUTHORIZATION

APPROVAL Matt Smith

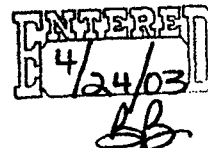
DATE 4/29/03

AMOUNT TO PAY \$ 42,328.15

CODING _____

100-000-1159-00 42,328.15

Invoice subtotal	40663.00
Sales tax @ 6.300%	1665.15
Invoice total	42328.15





Southwest Ground-water Consultants, Inc.

INVOICE

July 7, 2003

TO:

Mr. Matthew E. Garlick
Technical Services Supervisor
Litchfield Park Service Company
111 West Wigwam Blvd., Suite B
Litchfield Park, Arizona 85340

SUBJECT:

Airline Wellfield Well 4AL
(SGC Project No. 675)

AUTHORIZATION:

Mr. Matthew E. Garlick (Agreement dated December 4, 2002). Signed December 13, 2002

INVOICE NO:

B.675-2

PERIOD:

March 1, 2003 through June 30, 2003

Completed final well report and submitted April 14, 2003.

Senior Hydrogeologist (SN)	4.5 hrs @ \$105/hr	\$472.50
Staff Hydrologist (NM)	15.5 hrs @ \$80/hr	\$1,240.00
Staff Hydrologist (DH)	0.5 hrs @ \$65/hr	\$32.50
Staff Hydrologist (GN)	3.5 hrs @ \$65/hr	\$227.50
Technical Support (SM)	1.0 hrs @ \$55/hr	\$55.00
Expenses:		
Reproduction (\$84.30)		\$84.30

TOTAL AMOUNT DUE

\$2,111.80

PAYMENT AUTHORIZATION	
APPROVAL	Matthew E. Garlick
DATE	6-10-03
AMOUNT	\$2,111.80
8600-2-0100-10-1700-0000	
2111.80	

4AL

ENTERED
7/11/03

BB

3900 East Camelback Road, #200
Phoenix, Arizona 85018-2636
(602) 955-5547 Fax (602) 955-7585

Prescott, Arizona
Phoenix, Arizona

Thayne Excavating and Construction Inc.

12632 N. 78th Dr.
Peoria, AZ 85381

ROC License No. 162975

No 2121

MAY - 7 2003

623-334-0433
Mobile: 602-579-6405

Con Litchfield Park SERVICE Date May 2-03

Add.

Job Location Bethany Home - El Mirage
"AIRLINE PARK"

DATE	DESCRIPTION	HOURS	TOTAL
5-2-03	"Backhoe" Uncover		
	"Pump Station Well"		
	"Center Pipe"		
B-	pour 3 yards cement		
	Around Pipe "5 yard min"		
	"concrete"		
	1 Laborer		
			\$28.85
5-5-03	"Backhoe" uncover		
	Pipe at Well Site		
	down 16 1/2 feet	TRAVEL TIME	
	EXPOSE Pipe - Bodfill	TOTAL	
	1 Laborer		

NOTICE: Our operators are under your jurisdiction and control and will make every effort to place materials where you, our customer, designates, but we assume no responsibility for damages or delays. Customer signature certifies job was completed in a satisfactory manner.

[Signature]
Operator

\$28.85

Customer Signature

[Signature]

4AL

WIP

4-AL

ENTERED
9/30/03

BB

8600-2-0100-10-1700-0000

Thayne Excavating and Construction Inc.

ROC License No. 162975

No 291

8337 W. Pierson St.
Phoenix, Arizona 85037

623-334-0433
Mobile: 602-579-6405

Co. Litchfield Park Sr. Date Oct 3-03

Add. _____

Job Location

Well site "AIRLINE" Way 4-A

DATE	DESCRIPTION	HOURS	TOTAL
1	grade, Well site		<u>\$495.00</u>
2	60 yards material		
3	"Pit" Bring up grade 3 feet. level		
			<u>\$495.00</u>
	TRAVEL TIME		
	TOTAL		

NOTICE: Our operators are under your jurisdiction and control and will make every effort to place materials where you, our customer, designates, but we assume no responsibility for damages or delays. Customer signature certifies job was completed in a satisfactory manner.

Glenn Thayne
Operator

Customer Signature

PAYMENT AUTHORIZATION	
APPROVAL	<u>Matt Bullock</u>
DATE	<u>10/13/03</u>
AMOUNT	<u>\$495.00</u>
CHECK NO.	
<u>8500-2-0100-10-1100 0000</u>	
<u>495.00</u>	

POST

JOB
LPSCO
03002

ENTERED
10/13/03

Thayne Excavating and Construction Inc.

ROC License No. 162975

8337 W. Pierson St.
Phoenix, Arizona 85037

No. 4AL 254

623-334-0433

19 2003

Mobile: 602-579-6405

Co. Litchfield Park Date June 16-03

Add. _____

Job Location Aurline Way El Mirage
Bethany Home

DATE	DESCRIPTION	HOURS	TOTAL
	2 men - backhoe Labor		
①	Well site - grade		
②	level - Remove tree & brush		\$485.00
③	prepare for Block house		
PAYMENT AUTHORIZATION \$485.00 Matt Daulton DATE 6/23/03 TRAVEL TIME TOTAL			

NOTICE: Our operations are under your jurisdiction and control and will make every effort to place materials where you, our customer, designates, but we assume no responsibility for damages or delays. Customer signature certifies job was completed in a satisfactory manner.

[Signature] Operator Mother's Co. Customer Signature
called in by

8600-2-0100-10-1700-0000

ENTERED
6/23/03

485.00

bb

4-AL

Thayne Excavating and Construction Inc.

8337 W. Peckson St.
Phoenix, Arizona 85037

ROC License No. 162975

No 295

623-334-0433

Mobile: 602-579-6405

Co. Litchfield Park Sec. - thru - Date Oct 23-03
Add. 111 West Wagoner Blvd. Suite B
Job Location Pysort & Indian School -
Bethany Home #1 Mortgage Road

DATE	DESCRIPTION <i>Her Lane</i>	HOURS	TOTAL
①	<u>clean up 3 "Well Sites"</u>		
②	<u>Remove cement, pipe,</u> <u>Boys Union, gates, telephone</u> <u>Poles, Wood, Water Pipe</u> <u>fittings, etc.</u>		<u>\$825</u>
③	<u>dump fee 4 truck</u> <u>loads to land fill</u>		<u>\$340</u>
			<u>\$</u>
	TRAVEL TIME		<u>1165</u>
	TOTAL		<u>1165</u>

NOTICE: Our operators are under your jurisdiction and control and will make every effort to place materials where you, our customer, designates, but we assume no responsibility for damages or delays. Customer signature certifies job was completed in a satisfactory manner.

Rock Thayne

Operator

Customer Signature

8600-2-0100¹⁰-1700-0600

ENTERED
10/31/03

1165⁰⁰

4-AL
LPSC
03002

well

RECEIVED
10/23/03

To:

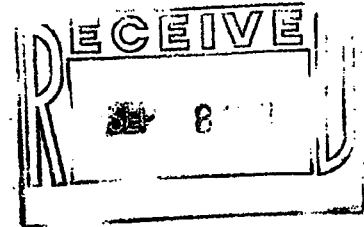
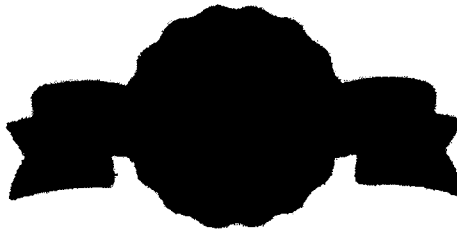
Litchfield Park Services
111 W. Wigwam Blvd.
Suite B
Litchfield Park, AZ 85340
Attn: Matt Galic



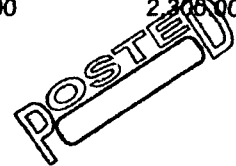
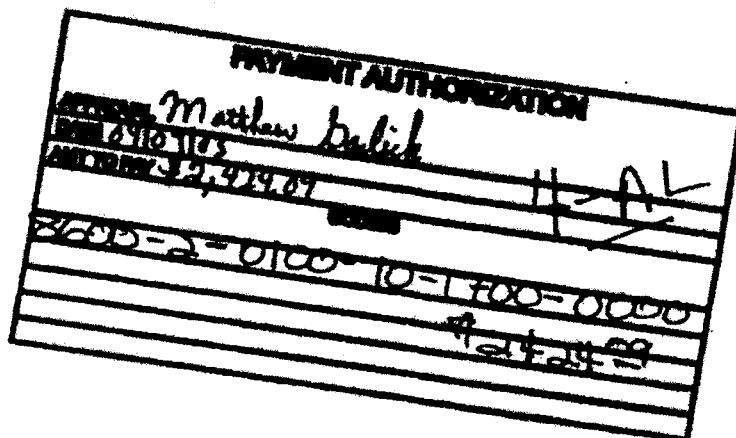
Invoice ID: 100261
Invoice Date: 09-04-2003
Draw ID: PO 4AL
Customer ID: LPSC0001
P.O. #: 4AL

Job Location:

10-1480
LPSCO Litchfield Park
Bethany Home & El Mirage
Goodyear, AZ



<u>Item</u>	<u>Description</u>	<u>Units</u>	<u>Unit of Measure</u>	<u>Unit Price</u>	<u>Amount</u>
1	Manufacture 8'X6' Slide Gate	1.00	LS	2,300.00	2,300.00



Amount Billed \$2,300.00
Total Tax 124.09

Retainage Held

DATE DUE: 10-01-2003
263 S. Extension Road ▾ Mesa, Arizona 85210 ▾ Office (480) 969-4995 ▾ Fax (480) 969-8733

Amount Due \$2,424.09



DND ELECTRICAL

1990 North Alma School #327
PHONE: (480)545-7006,
FAX 480-545-6228
CHANDLER, AZ 85224

INVOICE

INVOICE NO.

17953

BILL TO

LPSCO
111 W WIGWAM BLVD
SUITE B
LITCHFIELD, AZ 85340

MAY 22 2003

ATTENTION	TERMS	INVOICE DATE	JOB LOCATION	P.O. NUMBER
	Net 30	5/19/2003	WELL 4AL	

DESCRIPTION	QTY	EACH	AMOUNT
MATERIALS ON HAND	1	40,000.00	40,000.00T

PAYMENT AUTHORIZATION

APPROVAL Maxt Sautik

DATE 05/22/03

AMOUNT TO PAY ~~40,000.00~~ \$10,830.00

CODING _____ \$ _____

_____ \$ _____

8600-2-0100-10-1700-0000

_____ \$ 10,830.00

Let's due a progress payment of 25%.

4AL

WIP

4AL Electrical

PAID
5/30/03
BB

Sales Tax (8.3%)	\$3,320.00
INVOICE TOTAL	\$43,320.00

**D N D ELECTRICAL**

1990 North Alma School #327
PHONE: (480)545-7006,
FAX 480-545-6228
CHANDLER, AZ 85224

INVOICE

INVOICE NO.

17953

BILL TO

LPSCO
111 W WIGWAM BLVD
SUITE B
LITCHFIELD, AZ 85340

ATTENTION	TERMS	Due date	Invoice Date	JOB LOCATION	YOUR ORDER	P.O. NUMBER
	Net 30	6/18/2003	5/19/2003	WELL 4AL		
DESCRIPTION		QTY	EACH	AMOUNT		
MATERIALS ON HAND		1	40,000.00	40,000.00T		
<div>4AL</div>				<div>PAID 5/19/03</div>		
<div>PAYMENT AUTHORIZATION ATTORNEY: Matthew Galtich BILL # 84704183 AMOUNT: \$35,520.00 Due \$32,490.00 85500-2-0100-10-1700-0000</div>				<div>32 10,830.00 CK # 176 6/25/03</div>		

A finance charge of 1.5% per month or the maximum allowable by law whichever is greater, will be assessed if payment is not received by invoice due date.

TERMS & CONDITIONS

The customer agrees that in the event legal action is necessary to effect collection of the account balance, the customer will pay all costs of suit, including attorney's fees.

Sales Tax (8.3%)

\$3,320.00

INVOICE TOTAL

\$43,320.00

-10,830.00
\$35,520.00

**D N D ELECTRICAL**

1990 North Alma School #327
PHONE: (480)545-7006,
FAX 480-545-6228
CHANDLER, AZ 85224

INVOICE

INVOICE NO.

17953

BILL TO

LPSCO
111 W WIGWAM BLVD
SUITE B
LITCHFIELD, AZ 85340

ATTENTION	TERMS	Due date	Invoice Date	JOB LOCATION	YOUR ORDER	P.O. NUMBER
	Net 30	6/18/2003	5/19/2003	WELL 4AL		

DESCRIPTION	QTY	EACH	AMOUNT
MATERIALS ON HAND	1	40,000.00	40,000.00T

4AL

PAID
6/19/03
bb

PAYMENT AUTHORIZATION

APPROVAL *Matthew Batek*

DATE *6/10/03*

AMOUNT *\$35,520.00*

Batek

\$32,490.00

8500-2-0100-10-1700-C000

32 10,830.00

CL# 176

6/25/03

A finance charge of 1.5% per month or the maximum allowable by law whichever is greater, will be assessed if payment is not received by invoice due date.

TERMS & CONDITIONS

The customer agrees that in the event legal action is necessary to effect collection of the account balance, the customer will pay all costs of suit, including attorney's fees.

Sales Tax (8.3%)

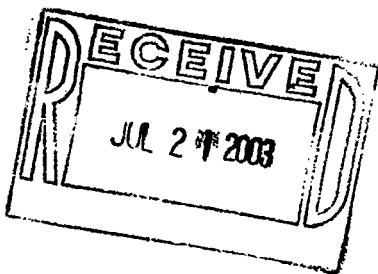
\$3,320.00

INVOICE TOTAL

\$43,320.00

~~10,830.00~~
\$35,520.00

P.O. BOX 1761
SUN CITY, AZ 85372-1761
623-930-0240
623-930-1502 FAX



DATE	INVOICE #
7/17/2003	CLIP995

BILL TO

LITCHFIELD PARK SERVICES
111 W WIGWAM BLVD
LITCHFIELD PARK, AZ 85340

SHIP TO

LITCHFIELD PARK SERVICES
111 W WIGWAM BLVD
LITCHFIELD PARK, AZ 85340

TERMS	SHIP DATE
Due on receipt	7/17/2003

QTY	RATE	DESCRIPTION	AMOUNT
	20.00	ANNUAL BACKFLOW ASSEMBLY TESTING (6" DCA)	20.00
<div style="display: flex; justify-content: space-between;"> <div> <p><i>Bice</i> <i>Goodyear</i> <i>Co Rubber</i> <i>Inter</i> <i>connect</i></p> </div> <div> <p><i>WATER</i></p> <div style="border: 1px solid black; padding: 5px; transform: rotate(-10deg);"> <p>PAYMENT AUTHORIZATION</p> <p>ATTN: <i>Matt Smith</i></p> <p>DATE: <i>8/2/13</i></p> <p>AMT: <i>\$20.00</i></p> <p>CARD: <i>8600-2-0100-10-1100-0000</i></p> <p><i>20.00</i></p> </div> </div> <div> <p>POSTED</p> </div> </div>			
<p>Thank you for your business.</p>			<p>Total \$20.00</p>

THANK YOU FOR YOUR BUSINESS.

INVOICE

AMERICAN FENCE CO OF ARIZ INC
2502 N. 27TH AVE.
PHOENIX, AZ 85009
(602) 272-2333



INVOICE



DEC 8 2003

Sold To: LITCHFIELD PARK SERVICE CO.
109 W HONEYSUCKLE
LITCHFIELD PARK, AZ 85340

Ship to: LITCHFIELD PARK SERVICE CO.
N/E/C EL MIRAGE & BETHANY HOM
PUMPS
PER MATTHEW
LITCHFIELD PARK, AZ 85340

Invoice Date: 12/04/03
Invoice # : 905162

Request Date 12/04/03 Customer P.O. Ship: X25062
Inst: TA

Description	Ext. Price
Work Performed	425.01

DELIVERY OF 196 FT TEMPORARY FENCE AND RENT UP TO 1 MONTH
FROM 12/03/03 TO 01/02/04
X25062

8600-2-0100-10-1700-0000

03-002

AMERICAN FENCE COMPANY

12/17/03

ENTERED

12/17/03

4AL

Subtotal : 425.00

Amount Paid: .00

Amount Due : 425.00

Thank You for Your Business!

American Fence Company: 816349, 815119, 869390, 169-69, 694193, 163476, 371536, 373474, 679039, 869768, 069399, 110777, 069768
American Fence Company, Inc. 882667, C-18697 95-700839-5701, 37013, 37014 American Fence Company of New Mexico, Inc. 881912

DETACH THIS PORTION AND INCLUDE WITH PAYMENT

* Please disregard this invoice if payment has been made.

Send your remittance to: (please note new address)

American Fence Company
P.O. Box 19040
Phoenix, AZ 85005-9040

Customer #: 75169
Order #: 1238913 BL
Related PO:
Brn/Plt : 0101200
Invoice #: 905162

For billing inquiries only, call 1-888-691-4565.

Amount Enclosed: _____

AMOUNT

EXC SRV CHG, 110' LESS 40' FREE =70'X \$18.12/FT

LABOR

LABOR	
SUB-TOTAL	1268.40
AMT. SUBJECT TO TAX	
AMOUNT TAX EXEMPT	1268.40
CITY SALES TAX	
STATE SALES TAX	
NON-REFUNDABLE CUST. CONTRIB.	1268.40
REFUNDABLE CUST. ADVANCE	
TOTAL DUE (-Cash Price Above)	1268.40

FOR WAIVER OF RESERVATION, THE UNDERSIGNED HEREBY AGREES TO PAY TO RECEIVED FROM SERVICES COMPANY ("APS") THE amount designated as, "Total Due" within thirty (30) days of the "Sale Date" noted above. All charges unpaid after the thirty (30) day period shall bear interest thereafter at the rate of one percentum (1%) per annum upon the prime interest rate by Bank One of Chicago, until the past due charges, including interest accrued thereon, are paid in full. The charging of interest and for the failure of APS to insist upon the payment of any charges when due, shall not be construed to limit or waive any rights or remedies available to APS for such non-payment. The undersigned agrees to pay all costs and expenses of collection of this Promissory Note including reasonable attorney's fees. Time is of the essence of this Sales Invoice.

Executed this _____ day of _____, 20____.

201771

Signature: _____

Co-Signature:

Name - Type or Print:

Name - Type or Print:

Title:

Firm:

- ☐ A corporation incorporated in the State

- ☐ A partnership consisting of

☐ Other (identity)

ARIZONA PUBLIC SERVICE COMPANY

Signature prepared by: LAUREN SHOFFNER

Title: ADMIN ASSIST.

Employee No.: Z85002

Authorized by: LINDA PARK

Employee No.: 31069

Authorized by: _____

Employee No.:

Auza & Auza Contracting, Inc.
1112 W Hatcher Rd
Phoenix, AZ 85021

AUG 19 2003

Invoice
Invoice Number:
1931

Invoice Date:
Aug 14, 2003

Voice: 602-870-6679
Fax: 602-944-0516

Sold To:

LPSCO - Litchfield Park Service Co.
1111 W. Wigwam Blvd
#B
Litchfield Park, AZ 85340

Job Name:

LPSCO - Well 4AL/9AL Waterline
Inter-Connect
Glendale & El Mirage Rd.

Customer ID	Customer PO	Payment Terms
198		Net 30 Days

Quantity	Item	Description	Unit Price	Extension
1.00		Final Billing	3,650.00	3,650.00
<p>POSTED</p> <p><u>CWIP- 4AL-9AL</u></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>PAYMENT AUTHORIZATION</p> <p>APPROVED: <i>Matthew Garlick</i></p> <p>DATE: 08/25/03</p> <p>AUTHORITY: \$3,650.00</p> <p>8600-2-0100-10-1700-0000</p> </div> <p style="text-align: right; margin-right: 100px;"> 4AL 12" waterline </p> <p style="text-align: right;"> ENTERED <i>8/25/03</i> <i>BB</i> </p>				

Check No:

Subtotal	3,650.00
Sales Tax	
Total Invoice Amount	3,650.00
Payment Received	
TOTAL	3,650.00

PROPOSAL

Project: LPSCO - Well 4AL/9AL Waterline Inter-Connect
Location: Glendale & ElMirage Rd
Take Off: David
Supplier: 0
Document: LPSCO - Well 4AL/9AL Waterline Inter-Connect
Plans Rcvd: 07/11/03

Description Unit Quantity Unit Extention \$

Waterline Installation

Description	Unit	Unit Rate	Quantity	Extention
1 24" DIP LEM	Lf	\$ -	-	\$ -
2 16" DIP LEM	Lf	\$ 40.00	-	\$ -
3 12" DIP LEM	Lf	\$ 32.00	40	\$ 1,280.00
4 ABC Bedding	Lf	\$ 10.50	40	\$ 420.00
5 8" DIP LEM	Lf	\$ -	-	\$ -
6 6" DIP LEM	Ea	\$ -	-	\$ -
7 24" Gate Valve B&C	Ea	\$ -	-	\$ -
8 16" Gate Valve B&C	Ea	\$ 7,150.00	-	\$ -
9 8" Valve Box & Cover	Ea	\$ -	-	\$ -
10 6" Valve Box & Cover	Ea	\$ -	-	\$ -
11 16" Tee	Ea	\$ 4,100.00	-	\$ -
12 12" 45 Deg & 90 Deg Fittings	Ea	\$ 525.00	2	\$ 1,050.00
13 16" x 12" Reducer & Ftgs	Ea	\$ 850.00	1	\$ 850.00
14	Ea	\$ -	-	\$ -
15 2" Blow Offs 16" & 12"	Ea	\$ 425.00	-	\$ -
16 Air Relief Valves	Ea	\$ -	-	\$ -
17 Road Crossing	Lf	\$ 25.00	-	\$ -
18 AC R&R	SY	\$ -	-	\$ -
19 Barricades Sewer & Water	LS	\$ -	-	\$ -
20 Removal of old 16" Butterfly Valve & fittings	LS	\$ 2,000.00	-	\$ -
SUBTOTAL WATER:				\$ 3,600.00
MISC:				
Communication Conduit				\$ -
2" DB 120 Conduit w/ Muletape	Lf	\$ 0.65	-	\$ -
J Boxes	Ea	\$ 50.00	1	\$ 50.00
Survey	LS	\$ 1.00	-	\$ -
				\$ -
SUBTOTAL MISC				\$ 50.00
TOTAL WATER & SEWER				\$ 3,650.00
SALES TAX 8.3 X 65% = 5.395%				\$ -
TOTAL THIS ESTIMATE				\$ 3,650.00

Auza & Auza Contracting, Inc.
1112 W Hatcher Rd
Phoenix, AZ 85021

Invoice

Invoice Number:

1956

Invoice Date:

Sep 5, 2003

Voice: 602-870-6679

Fax: 602-944-0516

Sold To:

LPSCO - Litchfield Park Service Co.
1111 W. Wigwam Blvd
#B
Litchfield Park, AZ 85340

Job Name:

LPSCO
9AL-4AL Well Interconnect
Waterline

POSTED

Customer ID	Customer PO	Payment Terms
198	03036	Net 30 Days

Quantity	Item	Description	Unit Price	Extension
1.00		Change Order No. 1	10,448.40	10,448.40
<div><div><div>PAYMENT AUTHORIZATION APPROVED: <i>Max Schubert</i> DATE: 09/11/03 AMOUNT: \$10,448.40 8600-2-0100-10-1100-0000 10,448.40 ENTERED 9/11/03</div><div>4AL</div></div></div>				

Check No:

Subtotal	10,448.40
Sales Tax	
Total Invoice Amount	10,448.40
Payment Received	
TOTAL	10,448.40

Auza & Auza Contracting, Inc.

1112 W. Hatcher Rd., Ste. 2

Phoenix, AZ 85021

(602) 870-6679

(602) 944-0516 Fax

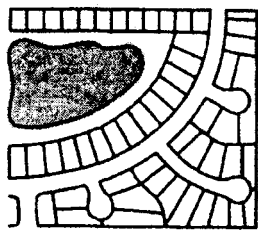
CHANGE ORDER No. 1

Date: 7/18/2003	Job No. 03036
Job Name/Location: 9AL-4AL Well Interconnect Waterline	
Reference:	Date of Existing Contract:

TO:

LPSCOAttn: Jim Suvers111 W Wigwam Blvd Suite BLitchfield Az 85340

We hereby agree to make the change(s) specified below:				
Description	Quantity	Unit	Unit \$	Extension
Add:				
Concrete cap on 18" due to Design Error-Wrong Location	150	LF	50	\$7,500
16" DIP Design was short. Actual length was 80 longer	72	LF	38	\$2,736
ABC Bedding - 16" Extension	72	LF	2.95	\$212.40
				\$0
TOTAL \$				\$10,448.40
Upon your review and acceptance of this Change Order, please execute name and retain the yellow copy for your records. Return the pink copy to Auza & Auza Contracting no later than 7/30/03.				
NOTE: This Change Order becomes part of and in conformance with the existing contract.				
WE AGREE hereby to make the change(s) specified above at this price			\$	10,448.40
Date: 9/5/2003	Previous Contract Amount		\$	-
Authorized Signature <u>David Auza</u> Contractor	Revised Contract Total		\$	10,448.40
ACCEPTED - The above prices and specifications of this Change Order are satisfactory and are hereby accepted. All work to be performed under same terms and conditions as specified in original contract unless otherwise stipulated.				
Date of Acceptance:		<u>August 2, 2003</u>		
Signature:		<u>Matthew Enclink</u> Operations Manager		

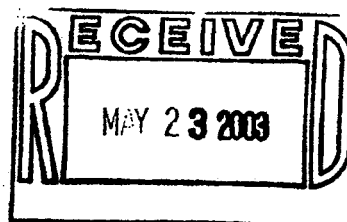


B&R

ENGINEERING, INC.

CIVIL ENGINEERING • LAND DEVELOPMENT

9666 E. Riggs Road, Suite 502, Sun Lakes, AZ 85248-7404 • (480) 895-0799 • FAX (480) 895-5557



INVOICE

PAYMENT AUTHORIZATION

APPROVAL	<i>Matthew E. Garlick</i>
DATE	<i>05/23/03</i>
AMOUNT TO PAY	<i>\$15,780.60</i>
CODING	
<i>8600-2-0100-10-1700-0000</i>	
<i>\$15,780.60</i>	

David W. Ellis, P.E.
Matthew E. Garlick
Litchfield Park Service Company
111 Wigwam Blvd. Suite B
Litchfield Park, AZ 85340

Date: May 19, 2003

Re: Work Performed: Well site 4AL

SERVICE PERIOD: December, 2002 thru April 30, 2003

B&R Engineering Services - Task II = \$10,100 = 90% complete

Landmark Engineering Invoices (attached) - Survey - Task I

Wright Engineering Invoice (attached) - Electrical - Task III

Nabar Stanley Brown Invoice (attached) - Structural - Task IV

Sub-Total =

\$ 9,090.00

\$ 1,920.00

\$ 640.00

\$ 3,830.60

\$ 300.00

\$15,780.60

REIMBURSABLE COSTS

\$ 0.00

TOTAL AMOUNT DUE THIS INVOICE

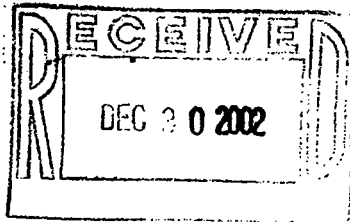
\$15,780.60

PLEASE MAKE CHECK PAYABLE TO:

B & R Engineering, Inc.
9666 East Riggs Road, Suite 141
Sun Lakes, Arizona 85248



CH2OICE PUMP INC
PO BOX 215
BUCKEYE, AZ 85326



Invoice

Customer No.: LPSCO
Invoice No.: 11617

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE #4

Ship Via			F.O.B.		Terms	
			Origin		UPON RECEIPT	
Purchase Order Number			Sales Person			Our Order Number
			ROB ZEIDLER			C22-139
Quantity			Item Number	Description	Unit Price	Amount
Required	Shipped	B.O.				
1	1			PULL EXISTING PUMP	3000.00	3000.00
1	1			T.V. WELL.	750.00	750.00
1	1			PULL WATER SAMPLES @ 310' & 356'.	1800.00	1800.00
1	1			MARICOPA TAX	0.00	0.00

Invoice subtotal 5550.00
Sales tax @ 6.300% 349.65
Invoice total 5899.65

PAYMENT AUTHORIZATION	
APPROVAL	<i>Matthew E. Darluk</i>
DATE	<i>01/03/03</i>
AMOUNT TO PAY	<i>\$5,899.65</i>
CODING	
<i>100-000-1159-00</i>	<i>5899.65</i>

4AL
P.O. #
7130

ENTERED
DEC 02

CH2OICE PUMP INC

PO BOX 215

BUCKEYE, AZ 85326

Invoice

Customer No.: LPSCO

Invoice No.: 11617

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. 8
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE #4

Date	Ship Via		F.O.B.	Terms		
12/23/02			Origin	UPON RECEIPT		
Purchase Order Number		Order Date	Sales Person	Orig Order Number		
		12/23/02	ROB ZEIDLER	C22-139		
Quantity			Item Number	Description	Unit Price	Amount
Required	Shipped	B.O.				
1	1			PULL EXISTING PUMP	3000.00	3000.00
1	1			T.V. WELL.	750.00	750.00
1	1			PULL WATER SAMPLES @ 310' & 350'.	1800.00	1800.00
1	1			MARICOPA TAX	0.00	0.00

Invoice subtotal

5550.00

Sales tax @ 6.300%

349.65

Invoice total

5899.65

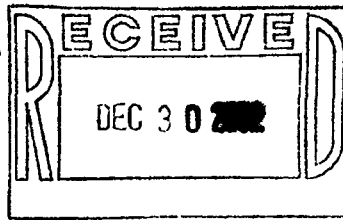
PAYMENT AUTHORIZATION	
APPROVAL	<u>Matthew Dailik</u>
DATE	<u>12/23/02</u>
AMOUNT TO PAY	<u>\$5899.65</u>
CODING	_____

100-000-1159-00	<u>5899.65</u>

ENTERED
12/30/02
BB

4AL
P.O.#
7130
LPSCO

CH2OICE PUMP INC
PO BOX 215
BUCKEYE, AZ 85326



Invoice

Customer No.: LPSCO
Invoice No.: 11616

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE #4

Ship Via			F.O.B.		Terms	
			Origin		UPON RECEIPT	
Purchase Order Number		Order Date	Sales Person		Our Order Number	
			ROB ZEIDLER		C22-139	
Quantity			Item Number	Description	Unit Price	Amount
Required	Shipped	B.O.				
1	1			INSTALL 380' 10"	0.00	0.00
				TEST PUMP. 300 H.P.		
				ENGINE & GEAR		
1	1			HEAD. PULL 12 HR	0.00	0.00
				STEP TEST & 15 HR		
				CONSTANT RUN		
1	1			TEST. PULL TEST	18182.00	18182.00
				PUMP		
1	1			MARICOPA TAX	0.00	0.00

Invoice subtotal 18182.00
Sales tax @ 8.300% 744.55
Invoice total 18926.55

PAYMENT AUTHORIZATION	
APPROVAL	<u>Matthew Baluh</u>
DATE	<u>01/03/02</u>
AMOUNT TO PAY	<u>\$18,926.55</u>
CODING	
<u>100-000-1159-00</u>	<u>\$18,926.55</u>

4AL
P.O. #
7130

ENT
DEC 02

CH2OICE PUMP INC

PO BOX 215

BUCKEYE, AZ 85326

Customer No.: LPSCO

Invoice No.: 11616

Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE #4

Invoice

4AL
P.O. 7130

Date	Ship Via	F.O.B.	Terms		
12/23/02		Origin	UPON RECEIPT		
Purchase Order Number		Order Date	Sales Person	Our Order Number	
		12/23/02	ROB ZEIDLER	C22-139	
Quantity		Item Number	Description	Unit Price	Amount
Required	Shipped				
1	1		INSTALL 380" 10"	0.00	0.00
			TEST PUMP. 300 H.P.		
			ENGINE & GEAR		
1	1		HEAD. PULL 12 HR	0.00	0.00
			STEP TEST & 15 HR		
			CONSTANT RUN		
1	1		TEST PULL TEST	18182.00	18182.00
			PUMP		
1	1		MARICOPA TAX	0.00	0.00

Invoice subtotal

18182.00

Sales tax @ 0.300%

744.55

Invoice total

18926.55

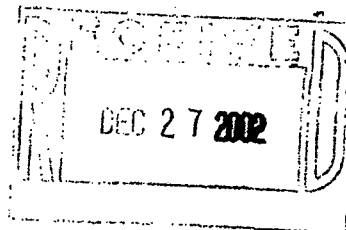
PAYMENT AUTHORIZATIONAPPROVAL Matthew E. SackelDATE 12/23/02AMOUNT TO PAY \$18,926.55

CODING

100-000-1159-00 • 18926.55

ENTERED
12/30/02
BB

CH2OICE PUMP INC
PO BOX 215
BUCKEYE, AZ 85326



Invoice

Customer No.: LPSCO
Invoice No.: 11627

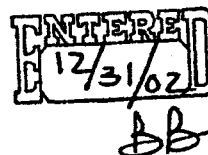
Bill To: LPSCO
111 W. WIGWAM BLVD.
STE. B
LITCHFIELD PARK, AZ 85340

Ship To: AIRLINE #4

Date	Ship Via		F.O.B.	Terms		
			Origin	UPON RECEIPT		
Purchase Order Number		Order Ref	Sales Person		Our Order Number	
7130			ROB ZEIDLER		C22-139	
Quantity			Item Number	Description	Unit Price	Amount
Required	Shipped	B.O.				
1	1			MOVE OLD PUMP FROM AIRLINE #4 TO SUN COR YARD	720.00	720.00
1	1			AT CAMELBACK & 303.	0.00	0.00
1	1			MARICOPA TAX	0.00	0.00

Invoice subtotal 720.00
Sales tax @ 6.300% 29.48
Invoice total 749.48

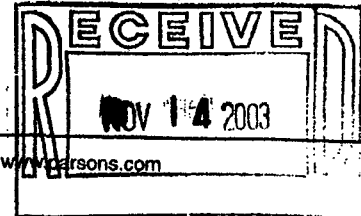
PAYMENT AUTHORIZATION	
APPROVAL	<u>Matthew E. Dalick</u>
DATE	<u>12/30/02</u>
AMOUNT TO PAY	<u>\$749.48</u>
CODING	• <u>100-000-1159-00</u>
	• <u>749.48</u>
	• <u> </u>
	• <u> </u>



Account Number	Date	Description	Category	Amount	Balance	Balance
				1,307.57		
	12/31/02	DEC ADJ	GENJ	211.19	2,161.49	
				129,160.71	211.19	
100-000-1153-00	1/1/02	Water/Sewer	GENJ	Beginning Balance		67,359.85
CWIP Indian School Wate	11/4/02			CWIP-INDIAN SCHOOL W		
				Change	67,359.85	-67,359.85
100-000-1156-00	1/1/02			Beginning Balance		12,814.23
CWIP - WATER	1/4/02	02752377	PJ	Parsons Engineering Science	788.10	
	2/5/02	02774257	PJ	Parsons Engineering Science	1,526.80	
	5/2/02	2865995	PJ	Parsons Engineering Science	590.80	
	9/12/02	02984559	PJ	Parsons Engineering Science,	491.58	
	11/4/02	Water/Sewer	GENJ	CWIP-WATER		16,211.51
	11/7/02	03056303	PJ	Parsons Engineering Science,	274.84	
	12/12/02	10657	PJ	PIERSON CONSTRUCTIO	127,020.00	
	12/26/02	DEC ADJ	GENJ	CWIP - WATER		127,294.84
				Change	130,692.12	143,506.35
						-12,814.23
100-000-1158-00	1/1/02			Beginning Balance		2,401.92
CWIP - CHLORINE	2/7/02	01542605	PJ	HARRINGTON INDUSTRI	2,530.89	
	2/19/02	004	PJ	WIZARD ENGINEERING -	240.00	
	3/1/02	1543223	PJ	HARRINGTON INDUSTRI	821.48	
	3/21/02	1220800095	PJ	AUTO SAFETY HOUSE LL	1,127.06	
	11/4/02	Water/Sewer	GENJ	CWIP-CHLORINE		7,121.35
				Change	4,719.43	7,121.35
						-2,401.92
100-000-1159-00	1/1/02			Beginning Balance		
CWIP NEW WELL	4/12/02	134579	PJ	KELLER EQUIPMENT CO	2,007.04	
	11/4/02	Water/Sewer	GENJ	CWIP-NEW WELL		2,007.04
	11/21/02	015533	PJ	CONESTOGA-ROVERS &	67,327.48	
	12/23/02		GENJ	transfer wells		67,327.48
	12/30/02	11616	PJ	CH2OICE PUMP INC - TES	18,926.55	
	12/30/02	11617	PJ	CH2OICE PUMP INC - PUL	5,899.65	
	12/31/02	11627	PJ	CH2OICE PUMP INC - MO	749.48	
				Change	94,910.20	69,334.52
	12/31/02			Ending Balance		25,575.68
						25,575.68
100-000-1160-00	1/1/02			Beginning Balance		37,745.93
CWIP WELL	1/8/02	1332221	PJ	KELLER EQUIPMENT CO	560.68	
	1/8/02	1332221	PJ	KELLER EQUIPMENT CO	3,021.74	
	1/8/02	1332221	PJ	KELLER EQUIPMENT CO	3,021.73	
	1/8/02	1332221	PJ	KELLER EQUIPMENT CO	3,021.73	
	2/1/02	011733	PJ	CUPP'S INDUSTRIAL SUPP	1,267.00	
	2/1/02	131073-01	PJ	SOUTHWEST FASTENER -	29.89	
	2/1/02	10440	PJ	MATERIAL RESOURCES, I	388.74	
	2/1/02	11489	PJ	CH2OICE PUMP INC - TO	1,886.72	
	2/1/02	11483	PJ	WAT-IRR, INC - TW 6 MEC	15,543.47	
	2/12/02	003	PJ	WIZARD ENGINEERING -	360.00	
	2/15/02	26953	PJ	YARDNEY WATER MANA	5,646.10	
	2/15/02	889926	PJ	HUGHES SUPPLY - FLAN	1,934.32	
	2/25/02	82968	PJ	LEGEND TECHNICAL SER	2,388.60	
	2/27/02	893671	PJ	HUGHES SUPPLY	585.00	
	3/1/02	892349	PJ	HUGHES SUPPLY - VAC	585.00	
	3/1/02	1332222	PJ	KELLER EQUIPMENT CO	22,711.39	
	3/1/02	1332222	PJ	KELLER EQUIPMENT CO	22,711.37	
	3/1/02	1332222	PJ	KELLER EQUIPMENT CO	22,711.37	
	3/1/02	934-795658	PJ	GRAINGER	877.71	
	3/1/02	973-572479	PJ	GRAINGER	614.36	
	3/1/02	423-806468	PJ	GRAINGER	17.31	
	3/1/02	218-781344	PJ	GRAINGER	1.57	
	3/1/02	13004	PJ	TOOLING RESEARCH, INC	163.17	
	3/5/02	16635	PJ	PUMP SYSTEMS, INC - FEE	1,545.74	
	3/5/02	895281	PJ	HUGHES SUPPLY - CREDI		585.00
	3/12/02	6	PJ	WIZARD ENGINEERING -	491.99	
	3/12/02	672-842743	PJ	GRAINGER - 20B HYP PA	18.23	
	3/12/02	934-661039	PJ	GRAINGER - 20B	143.13	
	3/13/02	1332223	PJ	KELLER EQUIPMENT CO	7,974.43	
	3/13/02	1332223	PJ	KELLER EQUIPMENT CO	7,974.42	
	3/13/02	1332223	PJ	KELLER EQUIPMENT CO	7,974.42	
	3/16/02	008	PJ	WIZARD ENGINEERING -	197.76	
	3/20/02	934-431424	PJ	GRAINGER - TOWN WELL	161.94	
	3/21/02	11507	PJ	WAT-IRR, INC - WELL 5	7,973.68	

PARSONS

100 West Walnut Street • Pasadena, California 91124 • (626) 440-2000 • Fax: (626) 440-2630 • www.parsons.com



INVOICE

NET 30 DAYS
NOVEMBER 11, 2003

CLIENT REF. : AGREEMENT
INVOICE NO. : 03373265
PROJECT NO. : 738908
CLIENT NO. : 76876

TO: LITCHFIELD PARK SERVICE CO.
111 W. WIGWAM BLVD., SUITE B
LITCHFIELD PARK, AZ 85340

ATTN: MR. DAVID ELLIS, MANAGER

PLEASE REMIT TO:
PARSONS WATER & INFRASTRUCTURE INC
P. O. BOX 601053
LOS ANGELES, CA 90060-1053

FOR: GENERAL SERVICES
(AMOUNT AUTHORIZED: \$25,000.00)
(AMOUNT BILLED TO DATE: \$25,148.30)

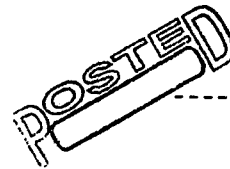
Goodyear Water Tie #2
03-029

BILLING PERIOD: 1/31/03 THROUGH 10/31/03

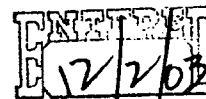
	CUR. HOURS	CURRENT PERIOD THROUGH 10/31/03	CUM. HOURS	CUMULATIVE-TO-DATE THROUGH 10/31/03
LABOR				
Labor costs:	6.5	651.50	270.0	24,357.50
OTHER DIRECT COSTS				
ODCS without markup		59.26		790.80

TOTAL THIS INVOICE:

710.76

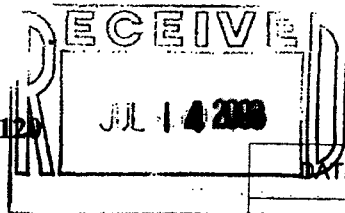


PAYMENT AUTHORIZATION	
APPROVAL	<i>David Ellis</i>
DATE	<i>Aug 12/03</i>
AUTHORITY	
CODING	
<i>8000-2-0100-10-1700-0000</i>	
<i>710.76</i>	





Keogh Engineering, Inc.
1616 N. Litchfield Rd., Suite 120
Goodyear, AZ 85338-1512
Phone (623) 535-7260



Invoice

DATE	INVOICE NO.
7/10/2003	18235

BILL TO
LPSCO 111 W. Wigwam Blvd., Suite B Litchfield Park, AZ 85340 Attn: Mathew Garlick

RE:
Interconnect Water Plan

TERMS	PROJECT
Due on receipt	18074

DESCRIPTION	AMOUNT
7/10/03 - Prepare interconnect water plan.	1,715.00
<div><p>PAYMENT AUTHORIZATION</p><p>APPROVED: <i>Mathew Garlick</i></p><p>DATE: <i>7/14/03</i></p><p>AMOUNT: <i>\$1,715.00</i></p><p><i>8600-2-0100-10-1700-0000</i></p><p><i>111500</i></p></div> <div><p><i>Bill to City of Goodyear</i></p><p><i>water inter-connect</i></p><p>RECEIVED</p><p><i>7/24/03</i></p><p>Total</p></div>	
	\$1,715.00

**Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120**

**THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009**

Exhibit TJB-RJ2

(Rate Base - Phase 1)

Attachment

Test Year Ended September 31, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

	Line	Meter Size	Class	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Water Revenues	Percent of Water Revenues
	1	5/8 Inch	Residential	\$ 7,929	\$ 12,150	\$ 4,221	53.24%	0.12%	0.10%
	2	3/4 Inch	Residential	2,023,567	3,047,217	1,023,650	50.59%	30.10%	26.18%
	3	1 Inch	Residential	1,986,898	3,488,577	1,501,679	75.58%	29.56%	29.98%
	4	1.5 Inch	Residential	54,252	104,176	49,924	92.02%	0.81%	0.90%
	5	2 Inch	Residential	159,078	271,623	112,545	70.75%	2.37%	2.33%
	6	4 Inch	Residential	19,356	38,225	18,870	97.49%	0.29%	0.33%
	7								
	8		Subtotal	4,251,079	6,961,968	2,710,889	63.77%	63.24%	59.82%
	9								
	10	5/8 Inch	Commercial	\$ 24,344	\$ 44,595	\$ 20,251	83.19%	0.36%	0.38%
	11	3/4 Inch	Commercial	12,320	20,422	8,102	65.77%	0.18%	0.18%
	12	1 Inch	Commercial	31,023	55,430	24,407	78.68%	0.48%	0.48%
	13	1.5 Inch	Commercial	64,158	124,114	59,956	93.45%	0.95%	1.07%
	14	2 Inch	Commercial	394,253	680,595	286,342	72.63%	5.86%	5.85%
	15	4 Inch	Commercial	64,990	125,868	60,878	93.67%	0.97%	1.08%
	16	10 Inch	Commercial	17,579	35,805	18,226	103.68%	0.26%	0.31%
	17								
	18		Subtotal	\$ 608,665	\$ 1,086,828	\$ 478,163	78.56%	9.05%	9.34%
	19								
	20								
	21	5/8 Inch	Irrigation	\$ 1,076	\$ 2,095	\$ 1,019	94.64%	0.02%	0.02%
	22	3/4 Inch	Irrigation	36,970	66,261	29,291	79.23%	0.55%	0.57%
	23	1 Inch	Irrigation	151,173	289,351	138,178	91.40%	2.25%	2.49%
	24	1.5 Inch	Irrigation	148,413	290,479	142,066	95.72%	2.21%	2.50%
	25	2 Inch	Irrigation	908,626	1,759,678	851,051	93.66%	13.52%	15.12%
	26	4 Inch	Irrigation	104,340	210,741	106,401	101.98%	1.55%	1.81%
	27								
	28		Subtotal	1,350,600	2,618,605	1,268,006	93.88%	20.09%	22.50%
	29								
	30		Hydrant	108,568	93,851	(14,717)	-13.56%	1.61%	0.81%
	31		Bulk Water (Goodyear)	403,707	876,196	472,490	117.04%	6.01%	7.53%
	32								
	33	Total Revenues Before Annualization		\$ 6,722,618	\$ 11,537,449	\$ 4,814,830	73.11%	100.00%	100.00%
	34								

Attachment

Test Year Ended September 31, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 31, 2008

Attachment

Revenue Summary
With Annualized Revenues to Year End Number of Customers

Line No.	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1						
2						
3	\$ 6,722,618	\$ 11,637,449	\$ 4,914,830	73.11%	100.00%	100.00%
4	27,680	42,039	14,359.70	51.88%	0.41%	0.36%
5	\$ 6,750,298	\$ 11,679,488	\$ 4,929,190	73.02%		
6						
7	\$ 127,522	\$ 127,522	-	0.00%	1.90%	1.10%
8	890	(25,699)	(26,589)	-2987.53%	0.01%	-0.22%
9	\$ 6,878,710	\$ 11,781,311	\$ 4,902,601	71.27%	0.00%	0.00%
10						
11						
12						
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16						
17						
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34						
35						

**Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120**

**THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009**

Exhibit TJB-RJ3

(Rate Base - Phase 1)

Attachment

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Returns at Proposed Rates
Analysis of Staff Proposed Rates and Charges

Line No.	Meter Size-->	Totals	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	Hydramt	4"	8" ⁸	10"
1	Water Revenues	\$ 11,637,449	\$ 58,840	\$ 3,133,900	\$ 3,833,358	\$ 518,769	\$ 2,711,896	\$ 93,851	\$ 374,833	\$ 876,196	\$ 35,805
2	Revenue Annualizations	42,039	2,102	(12,403)	(11,478)	15,053	26,949	1,716	20,101	-	-
3	Misc. Revenues ¹	127,522	1,793	74,129	44,936	1,490	4,789	188	172	16	8
4	Reconciliation H-1 to C-1 ¹	(25,699)	(361)	(14,939)	(9,056)	(300)	(965)	(38)	(35)	(3)	(2)
5	Total Revenues	\$ 11,781,311	\$ 62,374	\$ 3,180,887	\$ 3,857,760	\$ 535,011	\$ 2,742,669	\$ 95,717	\$ 395,071	\$ 876,209	\$ 35,812
6											
7	Operating Expenses ²	\$ 4,208,556	\$ 31,377	\$ 1,693,441	\$ 1,394,168	\$ 132,056	\$ 663,341	\$ 25,249	\$ 87,128	\$ 172,665	\$ 9,131
8	Depreciation and										
9	Amortization ²	2,224,110	15,800	926,963	845,765	54,252	315,106	12,956	32,325	14,994	5,947
10	Property Tax ³	338,453	1,792	91,375	110,826	15,370	78,791	2,750	11,350	25,172	1,029
11	Income Tax ⁴	1,776,041	3,986	111,931	518,793	125,127	632,031	20,398	100,152	256,469	7,155
12	Total Operating Expenses	\$ 8,547,160	\$ 52,955	\$ 2,823,710	\$ 2,869,551	\$ 326,804	\$ 1,689,269	\$ 61,353	\$ 230,954	\$ 489,300	\$ 23,263
13	Operating Income	\$ 3,234,151	\$ 9,419	\$ 356,977	\$ 988,208	\$ 208,207	\$ 1,053,399	\$ 34,365	\$ 164,117	\$ 406,909	\$ 12,549
14	Interest Expense ⁵	432,493	3,131	180,409	169,827	10,823	56,386	2,187	6,131	2,336	1,262
15	Net Income	\$ 2,801,659	\$ 6,288	\$ 176,568	\$ 818,382	\$ 197,384	\$ 997,013	\$ 32,177	\$ 157,986	\$ 404,574	\$ 11,287
16	Rate Base ⁶	\$ 37,174,137	\$ 269,002	\$ 15,497,936	\$ 14,588,871	\$ 929,719	\$ 4,843,844	\$ 187,915	\$ 526,844	\$ 200,656	\$ 108,452
17	Return on Rate Base ⁷	8.70%	3.50%	2.30%	6.77%	22.39%	21.75%	18.29%	31.16%	202.79%	11.57%
18											
19	Percent of Total Customers		1.406%	58.131%	35.238%	1.168%	3.756%	0.148%	0.135%	0.013%	0.006%
20											
21											

¹ Allocated based on customer counts.

² Operating Expenses and Depreciation computations are shown on Schedule G-4, Page 1.

³ Property Taxes allocation based on Revenues

⁴ Income Tax from Schedule C-1, at Proposed Rates. Income Taxes allocated based on taxable income

⁵ Interest Synchronized Interest Expense. Allocation based on Rate Base

⁶ Rate Base computations are shown on Schedule G-3, Page 1

⁷ Operating Income Divided by Rate Base

⁸ 8 Inch customer expected to leave system. See testimony of Greg Sorenson.

**Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120**

**THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009**

Exhibit TJB-RJ4

(Rate Base - Phase 1)

LPSCO - Water Division RUCO Proof of Revenues

Test Year Ended September 31, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

Line No.	Meter Size	Class	Present Revenues	RUCO Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1	5/8 Inch	Residential	\$ 7,929	\$ 11,481	\$ 3,552	44.80%	0.12%	0.10%
2	3/4 Inch	Residential	2,023,567	2,795,968	772,401	38.17%	30.10%	24.60%
3	1 Inch	Residential	1,986,898	3,473,712	1,486,814	74.83%	29.56%	30.57%
4	1.5 Inch	Residential	54,252	99,994	45,741	84.31%	0.81%	0.88%
5	2 Inch	Residential	159,078	266,222	107,144	67.35%	2.37%	2.34%
6	4 Inch	Residential	19,356	41,342	21,987	113.59%	0.29%	0.36%
7								
8		Subtotal	4,251,079	6,688,718	2,437,639	57.34%	63.24%	58.86%
9								
10	5/8 Inch	Commercial	\$ 24,344	\$ 44,787	\$ 20,444	83.98%	0.36%	0.39%
11	3/4 Inch	Commercial	12,320	20,181	7,861	63.81%	0.18%	0.18%
12	1 Inch	Commercial	31,023	55,298	24,275	78.25%	0.46%	0.49%
13	1.5 Inch	Commercial	64,158	118,530	54,372	84.75%	0.95%	1.04%
14	2 Inch	Commercial	394,253	661,127	266,874	67.69%	5.86%	5.82%
15	4 Inch	Commercial	64,990	122,090	57,100	87.86%	0.97%	1.07%
16	8 Inch	Commercial (Goodyear)	403,707	885,438	481,731	119.33%	6.01%	7.79%
17	10 Inch	Commercial	17,579	35,004	17,425	99.12%	0.26%	0.31%
18								
19		Subtotal	\$ 1,012,372	\$ 1,942,454	\$ 930,082	91.87%	15.06%	17.09%
20								
21								
22	5/8 Inch	Irrigation	\$ 1,076	\$ 1,607	\$ 530	49.28%	0.02%	0.01%
23	3/4 Inch	Irrigation	36,970	52,658	15,687	42.43%	0.55%	0.46%
24	1 Inch	Irrigation	151,173	289,899	138,726	91.77%	2.25%	2.55%
25	1.5 Inch	Irrigation	148,413	279,006	130,593	87.99%	2.21%	2.46%
26	2 Inch	Irrigation	908,626	1,720,692	812,066	89.37%	13.52%	15.14%
27	4 Inch	Irrigation	104,340	206,931	102,591	98.32%	1.55%	1.82%
28								
29		Subtotal	1,350,600	2,550,794	1,200,194	88.86%	20.09%	22.45%
30								
31		Hydrant	108,568	182,393	73,826	68.00%	1.61%	1.60%
32								
33								
34		Total Revenues Before Annualization	\$ 6,722,618	\$ 11,364,360	\$ 4,641,742	69.05%	100.00%	100.00%
35								

Attachment

LPSCO - Water Division RUCO Proof of Revenues

Test Year Ended September 31, 2008

Revenue Summary

With Annualized Revenues to Year End Number of Customers

Line No.	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1						
2						
3	\$ 6,722,618	\$ 11,364,360	\$ 4,641,742	69.05%	100.00%	100.00%
4	27,680	40,799	13,118.88	47.40%	0.41%	0.36%
5	\$ 6,750,298	\$ 11,405,159	\$ 4,654,861	68.96%		
6						
7	\$ 127,522	\$ 127,522	-	0.00%	1.90%	1.12%
8	889	22,645	21,756	2446.05%	0.01%	0.20%
9	\$ 6,878,709	\$ 11,555,325	\$ 4,676,616	67.99%	0.00%	0.00%
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						

Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120

THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009

Exhibit TJB-RJ5

(Rate Base - Phase 1)

Attachment

Line No.	Water Size->	Totals	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	Hydrant	4"	8"	10"
1	Water Revenues	\$ 11,364,360	\$ 57,875	\$ 2,868,807	\$ 3,818,909	\$ 497,530	\$ 2,648,041	\$ 182,393	\$ 370,363	\$ 885,438	\$ 35,004
2	Revenue Annualizations	40,799	2,097	(10,919)	(11,351)	13,724	25,004	3,343	18,900	-	-
3	Misc. Revenues ¹	127,522	1,790	74,020	44,870	1,488	4,970	188	172	16	8
4	Reconciliation H-1 to C-1 ¹	22,645	318	13,144	7,968	264	883	33	30	3	1
5	Total Revenues	\$ 11,555,325	\$ 62,081	\$ 2,945,052	\$ 3,880,396	\$ 513,005	\$ 2,678,898	\$ 185,958	\$ 389,486	\$ 885,457	\$ 35,014
6											
7	Operating Expenses ²	\$ 4,092,588	\$ 30,210	\$ 1,636,109	\$ 1,350,909	\$ 128,691	\$ 654,021	\$ 29,779	\$ 85,120	\$ 168,829	\$ 8,920
8	Depreciation and										
9	Amortization ²	2,257,549	15,779	929,591	851,148	54,929	330,061	21,603	32,801	15,599	6,037
10	Property Tax ³	339,187	1,822	86,447	113,315	15,058	78,635	5,458	11,432	25,991	1,028
11	Income Tax ⁴	1,718,739	4,324	43,761	534,572	117,826	603,445	48,470	98,524	260,900	6,917
12	Total Operating Expenses	\$ 8,408,063	\$ 52,136	\$ 2,665,908	\$ 2,849,945	\$ 316,505	\$ 1,666,162	\$ 105,311	\$ 227,878	\$ 471,319	\$ 22,901
13	Operating Income ⁵	\$ 3,147,262	\$ 9,945	\$ 249,144	\$ 1,010,451	\$ 196,501	\$ 1,012,736	\$ 80,647	\$ 161,588	\$ 414,138	\$ 12,113
14	Interest Expense ⁵	432,493	3,114	180,023	166,087	10,393	59,588	4,088	5,958	2,044	1,188
15	Net Income	\$ 2,714,770	\$ 6,830	\$ 69,121	\$ 844,363	\$ 186,107	\$ 953,148	\$ 76,559	\$ 155,620	\$ 412,094	\$ 10,925
16	Rate Base ⁵	\$ 36,946,802	\$ 265,878	\$ 15,370,113	\$ 14,180,350	\$ 887,367	\$ 5,087,556	\$ 349,042	\$ 509,509	\$ 174,499	\$ 101,388
17	Return on Rate Base ⁷	8.52%	3.74%	1.62%	7.13%	22.14%	19.91%	23.11%	31.71%	237.33%	11.95%
18											
19	Percent of Total Customers		1.404%	56.045%	35.186%	1.167%	3.897%	0.147%	0.135%	0.013%	0.006%

21 Allocated based on customer counts.
22
23 Operating Expenses and Depreciation computations are shown on Schedule G-4, Page 1.
24
25 Property Taxes allocation based on Revenues
26
27 Income Tax from Schedule C-1, at Proposed Rates. Income Taxes allocated based on taxable income
28
29 Interest Synchronized Interest Expense. Allocation based on Rate Base
30
31 Rate Base computations are shown on Schedule G-3, Page 1
32
33 Operating Income Divided by Rate Base
34
35 Inch customer expected to leave system. See testimony of Greg Sorenson.

Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120

THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009

Exhibit TJB-RJ6

(Rate Base - Phase 1)

Litchfield Park Service Company - Water Division

Attachment

Summary Cost of Service

For the Test Year Ended September 30, 2008

With Revenues and Returns Generated by City of Litchfield Park's Proposed Rate Design

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Line No.	Description	Staff Adjusted Totals (1)	Adjustments	Adjusted Totals	5/8 X 3/4"	3/4"	1.0"	1.5"
	Revenues							
1	Metered Water Revenues	\$ 6,347,481	\$ 5,328,747	\$ 11,676,228	\$ 52,156	\$ 3,288,564	\$ 3,091,607	\$ 463,037
2	Other Revenues	\$ 127,522	\$ -	\$ 127,522	\$ 1,793	\$ 74,129	\$ 44,936	\$ 1,490
3	Total Revenues	\$ 6,475,003	\$ 5,328,747	\$ 11,803,750	\$ 53,948	\$ 3,362,693	\$ 3,136,543	\$ 464,527
4								
5	Operating Expenses (2)	\$ 4,268,552		\$ 4,268,552	\$ 21,163	\$ 1,398,089	\$ 1,278,849	\$ 174,245
6	Depreciation & Amort. Expense (3)	\$ 2,191,077		\$ 2,191,077	\$ 9,932	\$ 692,862	\$ 661,908	\$ 88,127
7	Property Taxes (4)	\$ 327,992	\$ -	\$ 327,992	\$ 1,207	\$ 88,180	\$ 84,869	\$ 12,284
8	Income Taxes (5)	\$ (449,705)	\$ 1,949,419	\$ 1,778,145	\$ 6,541	\$ 478,051	\$ 460,100	\$ 66,596
9	Total Operating Expenses	\$ 6,337,916	\$ 1,949,419	\$ 8,565,766	\$ 38,842	\$ 2,657,182	\$ 2,485,725	\$ 341,252
10								
11	Net Income (Return)	\$ 137,087	\$ 3,100,897	\$ 3,237,984	\$ 15,106	\$ 705,511	\$ 650,818	\$ 123,276
12								
13	Rate Base (6)	\$ 37,218,182		\$ 37,218,182	\$ 148,885	\$ 10,881,579	\$ 10,472,958	\$ 1,515,874
14	Return On OLCD Rate Base	0.37%		8.70%	10.15%	6.48%	6.21%	8.13%

	Col 8	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15
Line No.	Description	2.0"	4.0"	8.0"	10.0"	Hydrant	Totals
15	Revenues						
16	Metered Water Revenues	\$ 2,444,747	\$ 491,430	\$ 925,087	\$ 10,486	\$ -	\$ 10,767,114
17	Other Revenues	\$ 4,789	\$ 172	\$ 16	\$ 8	\$ 188	\$ 127,522
18	Total Revenues	\$ 2,449,537	\$ 491,602	\$ 925,103	\$ 10,494	\$ 188	\$ 10,894,636
19							
20	Operating Expenses	\$ 904,191	\$ 133,299	\$ 305,560	\$ 12,050	\$ 41,107	\$ 4,268,552
21	Depreciation & Amort. Expense	\$ 470,323	\$ 68,814	\$ 152,384	\$ 6,758	\$ 39,968	\$ 2,191,077
22	Property Taxes	\$ 71,404	\$ 10,997	\$ 29,682	\$ 1,200	\$ 24,059	\$ 323,880
23	Income Taxes	\$ 387,101	\$ 59,616	\$ 160,916	\$ 6,503	\$ 130,431	\$ 1,755,855
24	Total Operating Expenses	\$ 1,833,019	\$ 272,726	\$ 648,543	\$ 26,510	\$ 235,565	\$ 8,539,364
25							
26	Net Income (Return)	\$ 616,517	\$ 218,876	\$ 276,560	\$ (16,016)	\$ (235,377)	\$ 2,355,272
27							
28	Rate Base	\$ 8,169,472	\$ 1,215,215	\$ 2,800,893	\$ 113,193	\$ 1,900,113	\$ 37,218,182
29	Return On OLCD Rate Base	7.55%	18.01%	9.87%	-14.15%	-12.39%	6.33%

1). Base data taken from ACC Staff Schedules JMM-W1

2). From RLD-4, page 2

3). From RLD-4, page 3

4). From RLD-4, page 4

5). From RLD-4, page 5

6). From RLD-4, page 6

**Litchfield Park Service Company
Docket Nos. SW-01428A-09-0103, W-01427A-09-0104,
W-01427A-09-0116, W-01427A-09-0120**

**THOMAS J. BOURASSA
REJOINDER TESTIMONY
December 29, 2009**

Exhibit TJB-RJ7

(Rate Base - Phase 1)

Litchfield Park Service Company - LP Revenue Proof
 Test Year Ended September 30, 2008
 Customer Summary

Attachment

Line No.	Meter Size, Class	(a) Average Number of Customers at 9/30/2008	Average Consumption	Average Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent
1	5/8 Inch Residential	58	4,661 \$	10.80 \$	15.64 \$	4.84	44.76%
2	3/4 Inch Residential	8,919	9,537	18.64	29.31	10.67	57.23%
3	1 Inch Residential	5,209	14,556	31.56	42.78	11.22	35.55%
4	1.5 Inch Residential	44	57,667	102.47	131.50	29.03	28.33%
5	2 Inch Residential	101	58,065	130.90	173.10	42.20	32.24%
6	4 Inch Residential	3	308,972	537.59	718.46	180.87	33.64%
7	Subtotal	14,333					
8	Commercial	148	5,342 \$	11.55 \$	16.68 \$	5.13	44.43%
9	5/8 Inch Commercial	57	8,000 \$	16.61	27.00	10.39	62.55%
10	3/4 Inch Commercial	83	13,804	30.57	41.66	11.08	36.26%
11	1 Inch Commercial	46	67,854	115.92	176.78	60.86	52.51%
12	1.5 Inch Commercial	232	65,909	141.25	221.86	80.61	57.07%
13	2 Inch Commercial	8	388,827	643.00	1,960.95	1,317.95	204.97%
14	4 Inch Commercial	1	861,500	1,464.93	873.83	(591.11)	-40.35%
15	10 Inch Commercial	575					
16	Subtotal						
17	Irrigation	3	18,722 \$	29.21 \$	43.00 \$	13.79	47.19%
18	5/8 Inch Irrigation	115	15,176	26.08	37.84	11.76	45.09%
19	3/4 Inch Irrigation	215	34,762	58.24	86.04	27.80	47.74%
20	1 Inch Irrigation	86	88,340	142.96	202.51	59.55	41.66%
21	1.5 Inch Irrigation	234	204,389	324.04	469.85	145.81	45.00%
22	2 Inch Irrigation	8	724,899	1,086.62	2,110.17	1,023.55	94.20%
23	4 Inch Irrigation	661					
24	Subtotal						
25	Hydrant	23	120,247 \$	400.62 \$	-	(400.62)	-100.00%
26	Bulk Water	2	12,574,167	16,820.65	38,545.28	21,724.63	129.15%
27	Total	15,594					

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.

**BOURASSA REJOINER
WATER SCHEDULES
(Rate Base – Phase I)**

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Increase in Gross Revenue
Requirements As Adjusted

Exhibit
Rejoinder Schedule A-1
Page 1
Witness: Bourassa

Line

No.

1	Fair Value Rate Base	\$ 37,762,676
2		
3	Adjusted Operating Income	(25,294)
4		
5	Current Rate of Return	-0.07%
6		
7	Required Operating Income	\$ 4,157,671
8		
9	Required Rate of Return on Fair Value Rate Base	11.01%
10		
11	Operating Income Deficiency	\$ 4,182,965
12		
13	Gross Revenue Conversion Factor	1.6286
14		
15	Increase in Gross Revenue Revenue Requirement	6,812,522
16		
17	Adjusted Test Year Revenues	\$ 6,878,709
18	Increase in Gross Revenue Revenue Requirement	\$ 6,812,522
19	Proposed Revenue Requirement	\$ 13,691,231
20	% Increase	99.04%

Customer Classification		Present Rates	Proposed Rates	Dollar Increase	Percent Increase
24	5/8 Inch Residential	\$ 7,929	\$ 12,435	\$ 4,506	56.83%
25	3/4 Inch Residential	2,023,567	4,705,562	2,681,996	132.54%
26	1 Inch Residential	1,986,898	4,543,768	2,556,870	128.69%
27	1.5 Inch Residential	54,252	96,697	42,445	78.24%
28	2 Inch Residential	159,078	235,222	76,144	47.87%
29	4 Inch Residential	19,356	32,168	12,813	66.20%
30	Subtotal	\$ 4,251,079	\$ 9,625,853	\$ 5,374,774	126.43%
31					
32	5/8 Inch Commercial	\$ 24,344	\$ 41,102	\$ 16,758	68.84%
33	3/4 Inch Commercial	12,320	30,173	17,853	144.92%
34	1 Inch Commercial	31,023	71,665	40,642	131.01%
35	1.5 Inch Commercial	64,158	114,162	50,004	77.94%
36	2 Inch Commercial	394,253	589,442	195,190	49.51%
37	4 Inch Commercial	64,990	109,023	44,033	67.75%
38	10 Inch Commercial	17,579	31,984	14,404	81.94%
39	Subtotal	\$ 608,665	\$ 987,550	\$ 378,885	62.25%
40					0.00%
41	5/8 Inch Irrigation	\$ 1,076	\$ 1,887	\$ 810	
42	3/4 Inch Irrigation	36,970	82,693	45,723	123.67%
43	1 Inch Irrigation	151,173	311,412	160,239	106.00%
44	1.5 Inch Irrigation	148,413	263,770	115,357	77.73%
45	2 Inch Irrigation	908,626	1,510,681	602,055	66.26%
46	4 Inch Irrigation	104,340	180,937	76,597	73.41%
47	Subtotal	\$ 1,350,600	\$ 2,351,380	\$ 1,000,780	74.10%
48					
49	Hydrant	\$ 108,568	\$ 115,392	\$ 6,825	6.29%
50	8 Inch Bulk	403,707	458,658	54,952	13.61%
51					
52	Subtotal Revenues before Annualization	\$ 6,722,618	\$ 13,538,833	\$ 6,816,215	101.39%
53	Revenue Annualization	27,680	26,152	(1,528)	-5.52%
54	Miscellaneous Revenues	127,522	127,522	-	0.00%
55	Reconciling Amount H-1 to C-1	890	(1,275)	(2,165)	-243.26%
56	Total of Water Revenues (a)	\$ 6,878,710	\$ 13,691,231	\$ 6,812,522	99.04%

SUPPORTING SCHEDULES:

Rejoinder B-1
Rejoinder C-1
Rejoinder C-3
Rejoinder H-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Summary of Rate Base

Exhibit
Rejoinder Schedule B-1
Page 1
Witness: Bourassa

Line No.		Original Cost Rate base	Fair Value Rate Base
1			
2	Gross Utility Plant in Service	\$ 73,705,658	\$ 73,705,658
3	Less: Accumulated Depreciation	9,027,020	9,027,020
4			
5	Net Utility Plant in Service	\$ 64,678,638	\$ 64,678,638
6			
7	<u>Less:</u>		
8	Advances in Aid of		
9	Construction	22,336,975	22,336,975
10	Contributions in Aid of		
11	Construction	3,096,180	3,096,180
12			
13	Accumulated Amortization of CIAC	(860,706)	(860,706)
14			
15	Customer Meter Deposits	2,238,022	2,238,022
16	Deferred Income Taxes & Credits	188,053	188,053
17			
18			
19			
20	<u>Plus:</u>		
21	Unamortized Debt Issuance		
22	Costs	-	-
23	Deferred Reg. Assets	82,561	82,561
24	Working capital	-	-
25			
26			
27			
28			
29	Total Rate Base	<u>\$ 37,762,676</u>	<u>\$ 37,762,676</u>
30			
31			
32			
33	<u>SUPPORTING SCHEDULES:</u>		<u>RECAP SCHEDULES:</u>
34	Rejoinder B-2		Rejoinder A-1
35	Rejoinder B-3		
36	Rejoinder B-5		
37			
38			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rejoinder Schedule B-2
Page 1
Witness: Bourassa

Line No.		Actual at End of Test Year	Proforma Adjustment Amount	Adjusted at end of Test Year
1	Gross Utility			
2	Plant in Service	\$ 73,731,815	(26,157)	\$ 73,705,658
3				
4	Less:			
5	Accumulated			
6	Depreciation	9,107,141	(80,121)	9,027,020
7				
8				
9	Net Utility Plant			
10	in Service	\$ 64,624,674		\$ 64,678,638
11				
12	Less:			
13	Advances in Aid of			
14	Construction	24,583,673	(2,246,699)	22,336,975
15				
16	Contributions in Aid of			
17	Construction	3,104,068	(7,888)	3,096,180
18				
19	Accumulated Amort of CIAC	(860,706)	-	(860,706)
20				
21	Customer Meter Deposits	68,685	2,169,337	2,238,022
22	Deferred Income Taxes & Credits	21,451	166,602	188,053
23				
24				
25				
26	Plus:			
27	Unamortized Debt Issuance			
28	Costs	134,528	(134,528)	-
29	Deferred Reg. Assets	82,561	-	82,561
30	Working capital	-	-	-
31				
32				
33				
34				
35	Total	<u>\$ 37,924,592</u>		<u>\$ 37,762,676</u>

SUPPORTING SCHEDULES:
Rejoinder B-2, page 2

RECAP SCHEDULES:
Rejoinder B-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rejoinder Schedule B-2
Page 2
Witness: Bourassa

Line No.	Description	Adjusted at end of Test Year	Proforma Adjustments					Rejoinder Adjusted at end of Test Year
			1	2	3	4	5	
			Plant	Accumulated Depr.	DI	AIAC/CIAC	AIAC Reclass	Remove Security Deposit
								Debt Issuance Costs
1	Gross Utility	\$ 73,731,815	(26,157)					
2	Plant in Service							
3	Less:							
4	Accumulated Depreciation	9,107,141		(80,121)				
5								
6								
7								
8								
9	Net Utility Plant in Service	\$ 64,624,674	\$ (26,157)	\$ 80,121	\$ -	\$ -	\$ -	\$ -
10								
11								
12	Less:							
13	Advances in Aid of Construction	24,583,673				(8,677)	(2,238,022)	
14								
15								
16	Contributions in Aid of Construction (CIAC)	3,104,068				(7,888)		
17								
18								
19	Accumulated Amort of CIAC	(860,706)						
20								
21	Customer Meter Deposits	68,685					\$ 2,238,022	(68,685)
22	Deferred Income Taxes & Credits	21,451			166,602			
23								
24								
25	Plus:							
26	Unamortized Finance Charges	134,528						
27								
28	Deferred Reg. Assets	82,561						
29	Allowance for Working Capital	-						
30								
31	Total	\$ 37,924,592	\$ (26,157)	\$ 80,121	\$ (166,602)	\$ 16,565	\$ -	\$ 68,685
32								
33								
34								
35								
36								
37								
38								
39								
40								

RECAP SCHEDULES:
Rejoinder B-2, page 1

SUPPORTING SCHEDULES:
Rejoinder B-2, pages 3-6

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1

Exhibit
Rejoinder Schedule B-2
Page 3
Witness: Bourassa

WL01427A-09-0104

Line No.	Plant-in-Service	Acct. No.	Description	Adjusted Original Cost	Post Test Year Plant	Plant Retirements	Capitalized Expenses	Organization Costs	Remove Office Rent	Intentionally Left Blank	Rejoinder Adjusted Original Cost
1				100				21,000			21,000
2			Organization Cost								
3			Franchise Cost								
4			Land and Land Rights	1,284,595							1,284,595
5			Structures and Improvements	24,698,293		(41,971)			(7,072)		24,649,251
6			Collecting and Impounding Res.								
7			Lake River and Other Intakes								
8			Wells and Springs	2,382,102			11,389				2,393,491
9			Infiltration Galleries and Tunnels								
10			Supply Mains								
11			Power Generation Equipment	202,269							202,269
12			Electric Pumping Equipment	948,213		(31,158)					917,055
13			Water Treatment Equipment	1,337,824							1,337,824
14			Water Treatment Plant	1,886,965	18,805						1,885,770
15			Chemical Solution Feeders								
16			Dist. Reservoirs & Standpipe	430,644			8,600				439,244
17			Storage tanks								
18			Pressure Tanks								
19			Trans. and Dist. Mains	28,929,171							28,929,171
20			Services	4,249,744							4,249,744
21			Meters	4,138,752							4,138,752
22			Hydrants	2,055,781							2,055,781
23			Backflow Prevention Devices	38,387							38,387
24			Other Plant and Misc. Equip.	285,281		(5,750)					259,531
25			Office Furniture and Fixtures	551,757							551,757
26			Computers and Software								
27			Transportation Equipment	177,165							177,165
28			Stores Equipment	31,711							31,711
29			Tools and Work Equipment	23,350							23,350
30			Laboratory Equipment								
31			Power Operated Equipment								
32			Communications Equipment	119,710							119,710
33			Miscellaneous Equipment								
34			Other Tangible Plant								
35											
36											
37											
38											
39			TOTALS	\$ 73,731,815	18,805	\$ (78,879)	\$ 19,989	\$ 21,000	\$ (7,072)	\$ -	\$ 73,705,658
40			Adjusted Plant-in-Service per Direct								\$ 73,731,815
41			Increase (decrease) in Plant-in-Service								\$ (26,157)
42			Adjustment to Plant-in-Service								\$ (26,157)

SUPPORTING SCHEDULES

Rejoinder B-2, pages 3.1-3.4

Rejoinder B-2, pages 3.5-3.16

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- B

Exhibit
Rejoinder Schedule B-2
Page 3.1
Witness: Bourassa

Line

No.

1	<u>Post Test Year Plant</u>	
2		
3	Post Test Year Plant per Rejoinder	\$ 1,885,770
4		
5	Post Test Year Plant per Direct	<u>\$ 1,866,965</u>
6		
7	Increase (Decrease) in Plant-in-Service	<u>\$ 18,805</u>
8		
9		
10	Account 320.1 - Water Treatment Equipment	<u>\$ 18,805</u>
11		
12		
13	See Staff Adjustment 2 Schedule JMM-W5	
14		
15		
16		

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- B

Exhibit
Rejoinder Schedule B-2
Page 3.2
Witness: Bourassa

Line

No.

1	<u>Plant Retirements</u>	
2		
3	304 - Structures and Improvements	\$ (41,971)
4	311 - Electric Pumping Equipment	(31,158)
5	339 - Other Plant and Miscellaneous Equipment	<u>(5,750)</u>
6		
7	Increase (Decrease) in Plant-in-Service	<u>\$ (78,879)</u>
8		
9		
10	For related AIAC and CIAC see Rejoinder Schedule B-2, page 6	
11		
12		
13		
14		
15	See Staff Adjustment 1 Schedule JMM-W6 (from Exhibit MSJ Table H-1)	

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1 - C

Exhibit
Rejoinder Schedule B-2
Page 3.3
Witness: Bourassa

Line

No.

1	<u>Capitalized Expenses</u>	
2		
3	307 - Wells and Springs - Hydro Controls and Pump Systems (clocks for wells)	\$ 1,114
4	307 - Wells and Springs - Southwest Grd Wtr Consult. (well spacing evaluation)	1,380
5	307 - Wells and Springs - Southwest Grd Wtr Consult. (well impact analysis)	4,823
6	307 - Wells and Springs - Southwest Grd Wtr Consult. (well rehabilitation)	<u>4,072</u>
7	Total For 307 - Wells and Springs	\$ 11,389
8		
9	331 - Distribution Mains - Narasimhan Consulting Services (Dist. Sys. Eval.)	<u>8,600</u>
10		
11	Total Capitalized Expenses	<u>\$ 19,989</u>
12		
13		
14	See Testimony	

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1 - D

Exhibit
Rejoinder Schedule B-2
Page 3.4
Witness: Bourassa

Line

No.

1	<u>Remove Office Rent</u>	
2		
3	307 - Wells and Springs - Suncor Development Company (2002)	\$ (7,072)
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14	See Testimony	

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.5

Account	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Plant At 12/31/2000	2000 Accum. Depr.	2001 Plant Additions	2001 Plant Adjustments	2001 Adjusted Plant Additions	2001 Plant Retirements	2001 Salvage A/D Only	2001 Plant Balance	2001 Deprec.
301	Organization Cost	0.00%	0.00%	21,100	-	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	671,103	-	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.62%	3.33%	114,008	48,698	3,441	-	3,441	-	-	117,449	3,032
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	613,250	173,809	930,425	-	930,425	-	-	1,543,674	28,256
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	69,151	-	71,728	-	71,728	-	-	140,878	2,751
311	Electric Pumping Equipment	2.62%	12.50%	420,594	94,255	35,008	-	35,008	-	-	455,602	11,478
320	Water Treatment Equipment	2.62%	3.33%	82,310	(15,404)	70,887	-	70,887	-	-	153,197	3,085
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	278,676	111,824	2,531	-	2,531	-	-	281,207	7,334
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	4,855,257	1,068,157	1,337,228	-	1,337,228	-	-	6,192,485	144,725
333	Services	2.62%	3.33%	1,907,362	241,423	182,991	-	182,991	-	-	2,090,352	52,370
334	Meters	2.62%	8.33%	1,261,241	301,075	174,224	-	174,224	-	-	1,435,466	35,327
335	Hydrants	2.62%	2.00%	322,184	(23,090)	67,203	-	67,203	-	-	389,386	9,322
336	Backflow Prevention Devices	2.62%	6.67%	8,426	299	-	-	-	-	-	8,426	221
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	-	-	-	-	-
340	Office Furniture and Fixtures	2.62%	20.00%	100,842	8,854	7,827	-	7,827	-	-	108,669	2,745
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	901	35	600	-	600	-	-	1,501	31
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	6,757	1,669	2,586	-	2,586	-	-	9,343	211
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	4,665	-	-	-	-	-	-	(4,665)
346	Communications Equipment	2.62%	10.00%	-	-	12,285	-	12,285	-	-	12,285	161
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

10,733,161	2,016,268	2,898,961	-	2,898,961	-	13,632,123	296,384
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(See page 3.15) (See page 3.16)

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.6

Account	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2002 Plant Additions	2002 Plant Adjustments	2002 Adjusted Additions	2002 Plant Retirements	2002 Salvage/Adj. A/D Only	2002 Plant Balance	2002 Deprec.
301	Organization Cost	0.00%	0.00%	112	-	112	-	-	21,212	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.62%	3.33%	28,361	(7,072)	21,289	-	-	138,738	3,432
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	292,355	-	292,355	-	-	1,836,030	45,274
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	140,878	3,970
311	Electric Pumping Equipment	2.62%	12.50%	84,962	-	84,962	-	-	540,564	17,151
320	Water Treatment Equipment	2.62%	3.33%	20,920	-	20,920	-	-	174,117	4,385
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	3,598	-	3,598	-	-	284,805	7,320
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	4,182,326	-	4,182,326	-	-	10,374,811	212,752
333	Services	2.62%	3.33%	405,108	-	405,108	-	-	2,495,460	61,431
334	Meters	2.62%	8.33%	532,234	-	532,234	-	-	1,967,699	52,678
335	Hydrants	2.62%	2.00%	344,649	-	344,649	-	-	734,036	14,427
336	Backflow Prevention Devices	2.62%	6.67%	2,607	-	2,607	-	-	11,034	288
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	-	-	-
340	Office Furniture and Fixtures	2.62%	6.67%	22,237	-	22,237	-	-	130,906	3,543
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	44,164	-	44,164	-	-	45,665	959
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	952	-	952	-	-	10,295	277
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	1,476	-	1,476	-	-	13,761	421
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

5,966,062	(7,072)	5,958,990	-	19,591,113	428,307
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Kitchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.7

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2003 Plant Additions	2003 Plant Adjustments ¹	2003 Plant Adjustments	2003 Adjusted Plant Additions	2003 Plant Retirements	2003 Salvage A/D Only	2003 Plant Balance	2003 Deprec.
301	Organization Cost	0.00%	0.00%	(112)	-	-	(112)	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	-	671,103	-
304	Structures and Improvements	2.62%	3.33%	66,270	-	-	66,270	-	-	205,007	5,723
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	116,073	-	-	116,073	-	-	1,952,103	63,072
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	140,878	7,044
311	Electric Pumping Equipment	2.62%	12.50%	11,570	2	-	11,572	-	-	552,136	68,294
320	Water Treatment Equipment	2.62%	3.33%	1,327	-	-	1,327	-	-	175,443	5,820
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	2,587	-	-	2,587	-	-	287,392	6,351
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	16,417	629,134	-	645,552	-	-	11,020,363	213,952
333	Services	2.62%	3.33%	9,323	-	-	9,323	(6,100)	-	2,498,683	83,152
334	Meters	2.62%	8.33%	502,539	61,481	-	564,019	-	-	2,531,718	187,401
335	Hydrants	2.62%	2.00%	6,971	586,662	-	593,633	-	-	1,327,668	20,617
336	Backflow Prevention Devices	2.62%	6.67%	2,865	-	-	2,865	-	-	13,898	831
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	-	-	-	-	-	-
340	Office Furniture and Fixtures	2.62%	6.67%	18,299	-	-	18,299	-	-	149,205	9,342
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	-	-	-	-	-	-	45,665	9,133
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	6,398	-	-	6,398	-	-	16,693	675
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-
347	Miscellaneous Equipment	2.62%	10.00%	13,763	-	-	13,763	-	-	27,524	2,064
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

774,289	-	1,277,279	-	2,051,568	(6,100)	-	21,636,581	683,472
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¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.8

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2004 Plant Additions	2004 Plant Adjustments ¹	2004 Adjusted Plant	2004 Plant Retirements	2004 Salvage A/D Only	2004 Plant Balance	2004 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	871,103	-
304	Structures and Improvements	2.62%	3.33%	334,449	(602)	333,848	-	-	538,855	12,385
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	4,160	-	4,160	-	-	1,956,263	65,074
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	35,614	-	35,614	-	-	176,493	7,934
311	Electric Pumping Equipment	2.62%	12.50%	71,154	(199)	70,955	-	-	623,091	73,452
320	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	175,443	5,842
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	117,773	-	117,773	-	-	405,165	7,587
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	8,813,416	-	8,813,416	-	-	19,833,779	308,541
333	Services	2.62%	3.33%	160,033	(4,734)	155,299	-	-	2,653,982	85,792
334	Meters	2.62%	8.33%	304,200	(280)	303,920	-	-	2,835,638	223,550
335	Hydrants	2.62%	2.00%	389	(511)	(122)	-	-	1,327,547	26,552
336	Backflow Prevention Devices	2.62%	6.67%	-	-	-	-	-	13,898	927
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	8,226	-	8,226	-	-	8,226	274
340	Office Furniture and Fixtures	2.62%	6.67%	110,448	-	110,448	-	-	259,653	13,635
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	28,224	-	28,224	-	-	73,889	11,955
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	647	-	647	-	-	17,340	851
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	6,715	-	6,715	-	-	34,239	3,088
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

9,995,449	(6,326)	9,989,123	-	-	31,625,704	847,542
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¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.9

Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2005 Plant Additions	2005 Plant Adjustments ¹	2005 Adjusted Plant Additions	2005 Plant Retirements	2005 Salvage A/D Only	2005 Plant Balance	2005 Deprec.
301		Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302		Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303		Land and Land Rights	0.00%	0.00%	-	-	-	-	-	671,103	-
304		Structures and Improvements	2.62%	2.62%	26,680	(28,165)	(1,484)	-	-	537,371	17,919
305		Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306		Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307		Wells and Springs	2.62%	3.33%	16,313	(8,385)	7,927	-	-	1,964,190	65,276
308		Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309		Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310		Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-
311		Electric Pumping Equipment	2.62%	12.50%	153,001	(8,399)	144,602	-	-	176,493	8,825
320		Water Treatment Equipment	2.62%	3.33%	13,084	(3,517)	9,567	-	-	767,693	86,924
320.1		Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	185,010	6,002
320.2		Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330		Distribution Reservoirs & Standpipe	2.62%	2.22%	-	-	-	-	-	405,165	8,995
330.1		Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2		Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331		Transmission and Distribution Mains	2.62%	2.00%	5,295,656	-	5,295,656	-	-	25,129,434	449,632
333		Services	2.62%	3.33%	50,131	(6,563)	43,568	-	-	2,697,550	89,103
334		Meters	2.62%	8.33%	544,240	(477)	543,763	-	-	3,379,401	258,856
335		Hydrants	2.62%	2.00%	14,198	(163)	14,036	-	-	1,341,582	26,691
336		Backflow Prevention Devices	2.62%	6.67%	-	-	-	-	-	13,898	927
339		Other Plant and Miscellaneous Equipment	2.62%	6.67%	147,612	-	147,612	-	-	155,839	5,472
340		Office Furniture and Fixtures	2.62%	6.67%	2,918	-	2,918	-	-	262,571	17,416
340.1		Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341		Transportation Equipment	2.62%	20.00%	(12,837)	-	(12,837)	-	-	61,052	13,494
342		Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-
343		Tools and Work Equipment	2.62%	5.00%	472	-	472	-	-	17,811	879
344		Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345		Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346		Communications Equipment	2.62%	10.00%	2,460	(1,394)	1,066	-	-	35,305	3,477
347		Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348		Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

6,253,927	(57,061)	6,196,865	-	37,822,569	1,059,887
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¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.10

Account	Description	No.	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2006 Plant Additions	2006 Plant Adjustments ¹	2006 Adjusted Plant Additions	2006 Plant Retirements	2006 Salvage A/D Only	2006 Plant Balance	2006 Deprec.
301	Organization Cost		0.00%	0.00%	-	-	-	-	-	21,100	-
302	Franchise Cost		0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights		0.00%	0.00%	-	-	-	-	-	671,103	-
304	Structures and Improvements		2.62%	3.33%	71,062	(22,752)	48,310	(1,350)	-	584,331	18,676
305	Collecting and Impounding Res.		2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes		2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs		2.62%	3.33%	52,928	-	52,928	-	-	2,017,118	66,289
308	Infiltration Galleries and Tunnels		2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains		2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment		2.62%	5.00%	-	-	-	-	-	176,493	8,825
311	Electric Pumping Equipment		2.62%	12.50%	2,400	-	2,400	-	-	770,093	96,112
320	Water Treatment Equipment		2.62%	3.33%	-	(9,690)	(9,690)	-	-	175,320	5,999
320.1	Water Treatment Equipment		2.62%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders		2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe		2.62%	2.22%	-	(3,381)	(3,381)	-	-	401,784	8,957
330.1	Storage tanks		2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks		2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains		2.62%	2.00%	371,174	-	371,174	-	-	25,500,608	506,300
333	Services		2.62%	3.33%	141,273	(400)	140,872	-	-	2,838,422	92,174
334	Meters		2.62%	8.33%	394,851	(204)	394,647	-	-	3,774,049	297,941
335	Hydrants		2.62%	2.00%	50,673	-	50,673	-	-	1,392,255	27,338
336	Backflow Prevention Devices		2.62%	6.67%	-	-	-	-	-	13,898	927
339	Other Plant and Miscellaneous Equipment		2.62%	6.67%	9,059	-	9,059	-	-	164,897	10,697
340	Office Furniture and Fixtures		2.62%	6.67%	112,402	-	112,402	-	-	374,973	21,262
340.1	Computers and Software		2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment		2.62%	20.00%	2,429	-	2,429	-	-	63,481	12,453
342	Stores Equipment		2.62%	4.00%	-	-	-	-	-	-	-
343	Tools and Work Equipment		2.62%	5.00%	-	-	-	-	-	17,811	891
344	Laboratory Equipment		2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment		2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment		2.62%	10.00%	-	(1,883)	(1,883)	-	-	33,422	3,436
347	Miscellaneous Equipment		2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant		2.62%	10.00%	-	-	-	-	-	-	-
	Rounding				-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

1,208,249	(38,310)	1,169,939	(1,350)	-	38,991,158	1,178,278
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¹ Affiliate Profit

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2007 Plant Additions	2007 Plant Adjustments ¹	2007 Adjusted Plant Additions	2007 Plant Retirements	2007 Salvage A/D Only	2007 Plant Balance	2007 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	6,156	-	6,156	-	-	677,259	-
304	Structures and Improvements	2.62%	3.33%	211,023	(99,915)	111,107	-	-	695,438	21,308
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	85,816	(166)	85,650	-	-	2,102,768	68,596
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	25,777	-	25,777	-	-	202,269	9,469
311	Electric Pumping Equipment	2.62%	12.50%	43,188	-	43,188	-	-	813,281	98,961
320	Water Treatment Equipment	2.62%	3.33%	20,801	(2,049)	18,751	-	-	194,071	6,150
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	2,340	(969)	1,371	-	-	403,154	8,935
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	1,282,512	-	1,282,512	-	-	26,783,120	522,837
333	Services	2.62%	3.33%	628,772	-	628,772	-	-	3,467,194	104,989
334	Meters	2.62%	8.33%	181,719	-	181,719	-	-	3,955,768	321,947
335	Hydrants	2.62%	2.00%	477,160	-	477,160	-	-	1,869,416	32,617
336	Backflow Prevention Devices	2.62%	6.67%	15,272	-	15,272	-	-	29,171	1,436
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	17,925	-	17,925	-	-	182,822	11,596
340	Office Furniture and Fixtures	2.62%	6.67%	-	-	-	-	-	374,973	25,011
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	24,302	-	24,302	-	-	87,783	15,126
342	Stores Equipment	2.62%	4.00%	31,711	-	31,711	-	-	31,711	634
343	Tools and Work Equipment	2.62%	5.00%	-	-	-	-	-	17,811	891
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	-	(28)	(28)	-	-	33,394	3,341
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

3,054,474	(103,126)	2,951,346	-	41,942,503	1,253,844
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¹ Affiliate Profit

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.12

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Jan. to Sep. 2008 Plant Additions	Jan. to Sep. 2008 Plant Adjustments ¹	Rebuttal Jan. to Sep. 2008 Capitalized Expenses	Jan. to Sep. 2008 Adjusted Plant Additions	Jan. to Sep. 2008 Plant Retirements	Jan. to Sep. 2008 Salvage (A/D Only)	Staff Plant Retirements	Jan. to Sep. 2008 Plant Balance	Jan. to Sep. 2008 Deprec.
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	-	-	21,100	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	607,337	-	-	607,337	-	-	-	1,284,595	-
304	Structures and Improvements	2.62%	3.33%	24,060,112	(64,328)	-	23,995,784	(41,971)	-	-	24,649,251	317,016
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	281,259	(1,925)	11,389	290,723	-	-	-	2,393,491	56,147
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	-	-	-	-	-	-	202,269	7,585
311	Electric Pumping Equipment	2.62%	12.50%	134,932	-	-	134,932	(31,158)	-	-	917,055	82,570
320	Water Treatment Equipment	2.62%	3.33%	1,150,701	(6,948)	-	1,143,753	-	-	-	1,337,824	19,130
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	27,600	(111)	-	27,489	-	-	-	430,644	6,941
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	2,146,051	-	8,600	2,154,651	-	-	-	28,937,771	417,907
333	Services	2.62%	3.33%	783,007	(457)	-	782,550	-	-	-	4,249,744	96,365
334	Meters	2.62%	8.33%	182,984	-	-	182,984	-	-	-	4,136,752	252,853
335	Hydrants	2.62%	2.00%	186,383	(18)	-	186,365	-	-	-	2,055,781	29,439
336	Backflow Prevention Devices	2.62%	6.67%	9,217	-	-	9,217	-	-	-	38,387	1,690
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	82,459	-	-	82,459	(5,750)	-	-	259,531	11,208
340	Office Furniture and Fixtures	2.62%	6.67%	176,784	-	-	176,784	-	-	-	551,757	23,180
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	89,382	-	-	89,382	-	-	-	177,165	19,871
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-	-	31,711	951
343	Tools and Work Equipment	2.62%	5.00%	5,539	-	-	5,539	-	-	-	23,350	772
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-	-	-	-	-	-	-
346	Communications Equipment	2.62%	10.00%	87,102	(787)	-	86,316	-	-	-	119,710	5,741
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

30,010,848	(74,573)	19,989	29,956,264	-	-	71,819,888	1,349,366
						\$	1,885,770
							73,705,658

¹ Affiliate Profit

PTY Plant
Total B-2 Plant

Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.13

Account No.	Description	Deprec. Rate Before	Deprec. Rate After	Year End Accumulated Depreciation by Account					
		Nov-02	Nov-02	2000	2001	2002	2003	2004	2005
301	Organization Cost	0.00%	0.00%	-	-	-	-	-	-
302	Franchise Cost	0.00%	0.00%	-	-	-	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-	-	-	-
304	Structures and Improvements	2.62%	3.33%	48,698	51,730	55,161	60,885	73,270	91,189
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-	-	-	-
307	Wells and Springs	2.62%	3.33%	173,809	202,065	247,339	310,411	375,486	440,761
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-	-	-	-
310	Power Generation Equipment	2.62%	5.00%	-	2,751	6,722	13,766	21,700	30,525
311	Electric Pumping Equipment	2.62%	12.50%	94,255	105,733	122,884	191,178	264,629	351,553
320	Water Treatment Equipment	2.62%	3.33%	(15,404)	(12,319)	(7,934)	(2,114)	3,728	9,730
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	111,824	119,158	126,479	132,830	140,517	149,512
330.1	Storage tanks	2.62%	2.22%	-	-	-	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	1,068,157	1,212,882	1,425,634	1,639,586	1,948,127	2,397,759
333	Services	2.62%	3.33%	241,423	293,793	355,224	432,276	518,068	607,171
334	Meters	2.62%	8.33%	301,075	336,402	389,080	576,481	800,031	1,058,888
335	Hydrants	2.62%	2.00%	(23,090)	(13,768)	659	21,276	47,828	74,519
336	Backflow Prevention Devices	2.62%	6.67%	299	519	807	1,639	2,566	3,493
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	-	-	15,141	24,483	38,118	55,534
340	Office Furniture and Fixtures	2.62%	6.67%	8,854	11,598	-	-	-	-
340.1	Computers and Software	2.62%	20.00%	-	-	-	-	-	-
341	Transportation Equipment	2.62%	20.00%	35	67	1,026	10,159	22,115	35,609
342	Stores Equipment	2.62%	4.00%	-	-	-	-	-	-
343	Tools and Work Equipment	2.62%	5.00%	1,669	1,879	2,156	2,831	3,682	4,560
344	Laboratory Equipment	2.62%	10.00%	-	-	-	-	-	-
345	Power Operated Equipment	2.62%	5.00%	4,665	161	582	2,646	5,735	9,212
346	Communications Equipment	2.62%	10.00%	-	-	-	-	-	-
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

2,016,268	2,312,852	2,740,959	3,418,332	4,265,874	5,325,761
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Litchfield Park Service Company - Water Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.14

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account		
				2006	2007	2008
301	Organization Cost	0.00%	0.00%	-	-	-
302	Franchise Cost	0.00%	0.00%	-	-	-
303	Land and Land Rights	0.00%	0.00%	-	-	-
304	Structures and Improvements	2.62%	3.33%	108,516	129,824	404,869
305	Collecting and Impounding Res.	2.62%	2.50%	-	-	-
306	Lake River and Other Intakes	2.62%	2.50%	-	-	-
307	Wells and Springs	2.62%	3.33%	507,050	575,646	631,793
308	Infiltration Galleries and Tunnels	2.62%	6.67%	-	-	-
309	Supply Mains	2.62%	2.00%	-	-	-
310	Power Generation Equipment	2.62%	5.00%	39,349	48,818	56,403
311	Electric Pumping Equipment	2.62%	12.50%	447,665	546,626	598,038
320	Water Treatment Equipment	2.62%	3.33%	15,729	21,879	41,009
320.1	Water Treatment Equipment	2.62%	3.33%	-	-	-
320.2	Chemical Solution Feeders	2.62%	20.00%	-	-	-
330	Distribution Reservoirs & Standpipe	2.62%	2.22%	158,469	167,404	174,345
330.1	Storage tanks	2.62%	2.22%	-	-	-
330.2	Pressure Tanks	2.62%	5.00%	-	-	-
331	Transmission and Distribution Mains	2.62%	2.00%	2,904,060	3,426,897	3,844,803
333	Services	2.62%	3.33%	699,345	804,334	900,699
334	Meters	2.62%	8.33%	1,356,829	1,678,776	1,931,628
335	Hydrants	2.62%	2.00%	101,857	134,474	163,913
336	Backflow Prevention Devices	2.62%	6.67%	4,420	5,856	7,546
339	Other Plant and Miscellaneous Equipment	2.62%	6.67%	16,442	28,039	33,497
340	Office Furniture and Fixtures	2.62%	6.67%	76,796	101,807	124,987
340.1	Computers and Software	2.62%	20.00%	-	-	-
341	Transportation Equipment	2.62%	20.00%	48,062	63,189	83,060
342	Stores Equipment	2.62%	4.00%	-	634	1,586
343	Tools and Work Equipment	2.62%	5.00%	5,451	6,342	7,113
344	Laboratory Equipment	2.62%	10.00%	-	-	-
345	Power Operated Equipment	2.62%	5.00%	-	-	-
346	Communications Equipment	2.62%	10.00%	12,648	15,989	21,730
347	Miscellaneous Equipment	2.62%	10.00%	-	-	-
348	Other Tangible Plant	2.62%	10.00%	-	-	-
	Rounding			-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

6,502,689 7,756,533 9,027,020

Exhibit
Rejoinder Schedule B-2
Page 3.15[illegible]

Litchfield Park Service Company - Water Division
A/D Reconciliation to Prior Rate Case

Exhibit
Rejoinder Schedule B-2
Page 3.16

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	Computed Prior Case Depr Adj.	Intentionally Left Blank	Intentionally Left Blank	Intentionally Left Blank	Prior Case Adjusted A/D	Left Blank	Initial Balance
1	301	Organization Cost	-	-	-	-	-	-	-	-
2	302	Franchise Cost	-	-	-	-	-	-	-	-
3	303	Land and Land Rights	-	-	-	-	-	-	-	-
4	304	Structures and Improvements	18,839	29,859	-	-	48,698	-	-	48,698
5	305	Collecting and Impounding Res.	-	-	-	-	-	-	-	-
6	306	Lake River and Other Intakes	-	-	-	-	-	-	-	-
7	307	Wells and Springs	99,938	73,871	-	-	173,809	-	-	173,809
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-
9	309	Supply Mains	-	-	-	-	-	-	-	-
10	310	Power Generation Equipment	11,427	(11,427)	-	-	-	-	-	-
11	311	Electric Pumping Equipment	66,985	27,270	-	-	94,255	-	-	94,255
12	312	Water Treatment Equipment	13,601	(29,005)	-	-	(15,404)	-	-	(15,404)
13	320.1	Water Treatment Plants	-	-	-	-	-	-	-	-
14	320.2	Chemical Solution Feeders	-	-	-	-	-	-	-	-
15	330	Distribution Reservoirs & Standpipe	46,049	65,774	-	-	111,824	-	-	111,824
16	330.1	Storage tanks	-	-	-	-	-	-	-	-
17	330.2	Pressure Tanks	-	-	-	-	-	-	-	-
18	331	Transmission and Distribution Mains	642,434	425,723	-	-	1,068,157	-	-	1,068,157
19	332	Services	290,160	(48,737)	-	-	241,423	-	-	241,423
20	333	Meters	199,766	101,309	-	-	301,075	-	-	301,075
21	334	Hydrants	44,491	(67,581)	-	-	(23,090)	-	-	(23,090)
22	335	Backflow Prevention Devices	1,392	(1,094)	-	-	299	-	-	299
23	336	Other Plant and Miscellaneous Equipment	-	-	-	-	-	-	-	-
24	339	Office Furniture and Fixtures	16,663	(7,810)	-	-	8,854	-	-	8,854
25	340	Computers and Software	-	-	-	-	-	-	-	-
26	340.1	Transportation Equipment	149	(113)	-	-	35	-	-	35
27	341	Stores Equipment	-	-	-	-	-	-	-	-
28	342	Tools and Work Equipment	1,116	552	-	-	1,669	-	-	1,669
29	343	Laboratory Equipment	-	-	-	-	-	-	-	-
30	344	Power Operated Equipment	-	4,665	-	-	4,665	-	-	4,665
31	345	Communications Equipment	-	-	-	-	-	-	-	-
32	346	Miscellaneous Equipment	-	-	-	-	-	-	-	-
33	347	Other Tangible Plant	-	-	-	-	-	-	-	-
34	348	Capacity Reserve	-	-	-	-	-	-	-	-
35										
36										
37										
38										
39										
40										
41		TOTAL	1,453,012	563,256	-	-	2,016,268	-	-	2,016,268

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2

Exhibit
Rejoinder Schedule B-2
Page 4
Witness: Bourassa

Line No.	Accumulated Depreciation	Adjusted Accum. Depr.	A Plant Retirements	B Depreciation On Capitalized Expense Plant	C A/D Removed Office Rent	D Difference to Computed Balance per B-2	E Intentionally Left Blank	Rejoinder Adjusted Accum. Depr.
1								
2								
3								
4								
5	Acct. No. Description							
6	301 Organization Cost	-	-	-	-	-	-	-
7	302 Franchise Cost	12,145	-	-	-	-	-	-
8	303 Land and Land Rights	448,272	-	-	(1,449)	(12,145)	17	404,869
9	304 Structures and Improvements	-	(41,971)	-	-	-	-	-
10	305 Collecting and Impounding Res.	-	-	-	-	-	-	-
11	306 Lake River and Other Intakes	-	-	-	-	-	-	-
12	307 Wells and Springs	631,587	-	142	-	64	-	631,793
13	308 Infiltration Galleries and Tunnels	-	-	-	-	-	-	-
14	309 Supply Mains	-	-	-	-	-	-	-
15	310 Power Generation Equipment	56,403	-	-	-	-	-	56,403
16	311 Electric Pumping Equipment	628,717	(31,158)	-	-	479	-	598,038
17	320 Water Treatment Plant	40,658	-	-	-	351	-	41,009
18	320.1 Water Treatment Plant	-	-	-	-	-	-	-
19	320.2 Chemical Solution Feeders	-	-	-	-	-	-	-
20	330 Dist. Reservoirs & Standpipe	174,345	-	-	-	-	-	174,345
21	330.1 Storage tanks	-	-	-	-	-	-	-
22	330.2 Pressure Tanks	-	-	-	-	-	-	-
23	331 Trans. and Dist. Mains	3,840,162	-	65	-	4,577	-	3,844,803
24	333 Services	896,049	-	-	-	4,650	-	900,699
25	334 Meters	1,930,823	-	-	-	805	-	1,931,628
26	335 Hydrants	162,873	-	-	-	1,040	-	163,913
27	336 Backflow Prevention Devices	7,510	-	-	-	36	-	7,546
28	339 Other Plant and Misc. Equip.	39,247	(5,750)	-	-	-	-	33,497
29	340 Office Furniture and Fixtures	124,862	-	-	-	125	-	124,987
30	340.1 Computers and Software	-	-	-	-	-	-	-
31	341 Transportation Equipment	83,060	-	-	-	-	-	83,060
32	342 Stores Equipment	1,586	-	-	-	-	-	1,586
33	343 Tools and Work Equipment	7,110	-	-	-	3	-	7,113
34	344 Laboratory Equipment	-	-	-	-	-	-	-
35	345 Power Operated Equipment	-	-	-	-	-	-	-
36	346 Communications Equipment	21,730	-	-	-	-	-	21,730
37	347 Miscellaneous Equipment	-	-	-	-	-	-	-
38	348 Other Tangible Plant	-	-	-	-	-	-	-
39	TOTALS	\$ 9,107,141	\$ (78,879)	\$ 207	\$ (1,449)	\$ 0	\$ -	\$ 9,027,020
40								
41	Adjusted Accumulated Depreciation per Direct							\$ 9,107,141
42								
43	Increase (decrease) in Plant-in-Service							\$ (80,121)
44								
45	Adjustment to Plant-in-Service							\$ (80,121)
46								
47	SUPPORTING SCHEDULES							
48	Rejoinder B-2, pages 3.5 to 3.16							
49	Rejoinder B-2, pages 4.1 to 4.3							

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - A

Exhibit
Rejoinder Schedule B-2
Page 4.1
Witness: Bourassa

Line

No.

1	<u>A/D Plant Retirements</u>	
2		
3	304 - Structures and Improvements	\$ (41,971)
4	311 - Electric Pumping Equipment	(31,158)
5	339 - Other Plant and Miscellaneous Equipment	<u>(5,750)</u>
6		
7	Increase (Decrease) in Plant-in-Service	<u>\$ (78,879)</u>
8		
9		
10		
11		
12		
13		
14		
15		

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - B

Exhibit
Rejoinder Schedule B-2
Page 4.2
Witness: Bourassa

Line

No.

1 A/D on Capitalized Plant

2

3

<u>Acct.</u>	<u>Description</u>	<u>Depr.</u> <u>Rate</u>		<u>Original</u> <u>Cost</u>	<u>Yr</u> <u>Factor</u>	<u>Depreciation</u>
307	Wells and Springs	3.33%	\$	11,389	0.375	\$ 142
331	Trans. and Dist. Mains	2.00%		8,600	0.375	65

7

8

9 Increase (Decrease) in Plant-in-Service

10 \$ 207

11

12

13

14 SUPPORTING SCHEDULE

15 Rejoinder B-2, page 3.3

16

17

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - C

Exhibit
Rejoinder Schedule B-2
Page 4.3
Witness: Bourassa

Line
No.

1	<u>A/D on Removed Capitalized Office Rent</u>				
2					
3					
4	<u>Acct.</u>	<u>Description</u>	<u>Depr.</u> <u>Rate</u>	<u>Original</u> <u>Cost</u>	<u>Yr</u> <u>Factor</u> <u>Depreciation</u>
5	307	Wells and Springs	3.33%	\$ (7,072)	5.79 \$ (1,363)
6	307	Wells and Springs	2.62%	(7,072)	0.46 (85)
7					
8					
9	Increase (Decrease) in Plant-in-Service				<u>\$ (1,449)</u>
10					
11					
12					
13					
14	<u>SUPPORTING SCHEDULE</u>				
15	Rejoinder B-2, page 3.4				
16					
17					

Exhibit
Rejoinder Schedule B-2
Page 5
Witness: Bourassa

Deferred Income Tax as of September 30, 2008 (Water and Wastewater Divisions)									
	Adjusted Book Value ¹	Tax Value ^{3,4}	Probability of Realization of Future Tax Benefit	Deductible TD (Taxable TD) Expected to be Realized	Tax Rate	Future Tax Asset		Future Tax Liability	
						Current	Non Current	Current	Non Current
Plant-in-Service	\$ 133,532,393								
Accum. Deprec.	(16,929,695)								
CIAC	(18,807,142)								
Fixed Assets	\$ 97,795,556	\$ 57,779,077	100.0%	\$ (40,016,479)	38.6%				\$ (15,446,361)
AIAC	\$ (29,326,533)	-	100.0%	\$ 29,326,533	38.6%		\$ 11,320,042		
Tax Benefits from bonus depr.			100.0%	\$ 9,838,658 ⁵	38.6%		\$ 3,797,722		
						\$ -	\$ 15,117,764	\$ -	\$ (15,446,361)
				Net Asset (Liability)		\$ (328,597)			
Water Division allocation factor						0.57229			
Allocated DIT Asset (Liability)						\$ (188,053)			
DIT Asset (Liability) per Direct						\$ (21,451)			
Adjustment to DIT						\$ 166,602			
¹ Adjusted Water and Wastewater - per Rejoinder B-2, page 2 (Water Division) and Rejoinder B-2, page 2 (Wastewater Division)									
² Based on water division rate base relative to total of both water and wastewater division rate bases.									
³ Adjusted for post-test year plant (water and wastewater)									
⁴ Computation of Net Tax Value at September 30, 2008 (Water and Wastewater)									
Based on 2008 Tax Depreciation report (December 31, 2008)									
Unadjusted Cost per 2008 Tax Depr. Report				\$ 71,524,622					
Reconciling Items not on tax report:									
AIAC (post test year AIAC netted against 2008 tax)				5,798,609					
CIAC (post test year CIAC netted against 2008 tax)				1,091,376					
Land costs not on tax, on books				2,012,629					
Capitalized Expenses not on tax, on books				45,691					
Organizational costs not on tax, on books				21,000					
Prior Year Retired Plant, on books, not on tax				(340,273)					
Plant Adds October to December on tax, not on books as of Sept. 2008				(128,422)					
Odor control unit removed from books, not removed from tax				(38,250)					
Accrual entry not on tax, on books				239,603					
AIAC timing difference				137,370					
CIAC timing difference				(244,958)					
2003 Plant not on tax, on books				1,277,167					
Unreconciled difference				381,462					
Net Unadjusted Cost tax Basis					\$ 81,777,626				
Proposed Rate Case Retirements				(633,856)					
Proposed retirements A/D at tax rates				562,331					
Net Reduction in tax basis related to retirements					\$ (71,525)				
Affiliate Profit removed				(463,401)					
Affiliate A/D at tax rates				67,055					
Net Reduction in tax basis related to affiliate profit					\$ (396,345)				
Basis Reduction 2007 and Prior (from 2007 Tax Depr. Report)					(2,849,349)				
Accumulated Depreciation 2007 and prior (2007 Tax Depr Report)					(8,564,437)				
<u>Bonus Depreciation Computation Jan. to Sept. 2008</u>									
Bonus Depr. for 12 months of 2008 per Tax Depr. Report				\$ 14,407,232					
Less: 2008 Bonus Depr for plant added after September 2008				(64,211)					
Net 12 months of Bonus Depr for plant added from Jan. to Sept. 2008				\$ 14,343,021					
Factor (9 months of 2008 or 9/12 or .75)				0.75					
Bonus Depreciation for 9 months of 2008					(10,757,266)				
<u>2008 Depreciation Computation Jan. to Sept. 2008</u>									
2008 Tax Depreciation (12 Months) per Tax Depr. Report				\$ 1,817,974					
Less: 2008 depr. for plant added after September 2008				(5,137)					
Net 12 months of depr. for plant added Jan. to Sept. 2008				\$ 1,812,837					
Factor (9 months of 2008 or 9/12 or .75)				0.75					
Tax Depreciation for 9 months of 2008					(1,359,628)				
Net tax value of plant-in-service at September 30, 2008					\$ 57,779,077				
⁵ Tax Benefits from bonus depreciation									
Net Income before tax	\$ 89,674	(from E-2 for both Water and Wastewater)							
Add: Book Depreciation	2,553,660	(from E-2 for both Water and Wastewater)							
Less: Tax Depreciation and Bonus Depr.									
Oct.-Dec. 2007	(365,098)	(from 2007 tax report \$1,460,292 times 3/12)							
Jan. - Sept. 2008	(12,116,894)	(from above \$10,757,266 plus \$1,359,628)							
Taxable Income /(loss)	\$ (9,838,658)								

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 4

Exhibit
Rejoinder Schedule B-2
Page 6
Witness: Bourassa

Line

No.

1 Plant Retirements

2

3 Advances-in-Aid of Construction

\$ (8,677)

4

5 Contributions-in-Aid of Construction

\$ (7,888)

6

7

8

9

10

11

12

13

14

15 See Staff Adjustment 1 Schedule JMM-W6

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 5

Exhibit
Rejoinder Schedule B-2
Page 7
Witness: Bourassa

Line

No.

1	<u>Reclassification</u>	
2		
3	Customer Meter Deposits (Meter and Service Line Installation Charges)	\$ 2,238,022
4		
5	Advances-in-Aid of Construction	\$ (2,238,022)
6		
7		
8		
9		
10		
11		
12		
13		
14	¹ Recorded Amounts per Books	
15	8600-2-0100-20-2112-0003 Current Portion Long Term Meter Deposits	\$ 140,000
16	8600-2-0100-20-2770-0001 Long Term Meter Deposit	<u>2,098,022</u>
17		\$ 2,238,022
18		
19		

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Working Capital

Exhibit
Rejoinder Schedule B-5
Page 1
Witness: Bourassa

Line

No.

1	Cash Working Capital (1/8 of Allowance		
2	Operation and Maintenance Expense)	\$	437,861
3	Pumping Power (1/24 of Pumping Power)		42,242
4	Purchased Water (1/24 of Purchased Water)		209

5

6

7

8

9	Total Working Capital Allowance	\$	480,312
---	---------------------------------	----	---------

10

11

12	Working Capital Requested	\$	-
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13

14

15 SUPPORTING SCHEDULES:

16 Rejoinder C-1

17

RECAP SCHEDULES:

Rejoinder B-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 1
Witness: Bourassa

Line No.		Test Year Adjusted Results	Adjustment	Rejoinder Test Year Adjusted Results	Proposed Rate Increase	Rejoinder Adjusted with Rate Increase
1	Revenues					
2	Metered Water Revenues	\$ 6,347,481	\$ 403,707	\$ 6,751,188	\$ 6,812,522	\$ 13,563,710
3	Unmetered Water Revenues	-	-	-	-	-
4	Other Water Revenues	127,522	-	127,522	-	127,522
5		<u>\$ 6,475,002</u>	<u>\$ 403,707</u>	<u>\$ 6,878,709</u>	<u>\$ 6,812,522</u>	<u>\$ 13,691,231</u>
6	Operating Expenses					
7	Salaries and Wages	\$ -	-	\$ -	-	\$ -
8	Purchased Water	5,011	-	5,011	-	5,011
9	Purchased Power	1,013,811	-	1,013,811	-	1,013,811
10	Fuel for Power Production	58,147	(20,309)	37,839	-	37,839
11	Chemicals	503,278	(305)	502,973	-	502,973
12	Repairs and Maintenance	44,001	-	44,001	-	44,001
13	Office Supplies and Expense	-	-	-	-	-
14	Outside Services	12,469	-	12,469	-	12,469
15	Outside Services- Other	2,382,976	(4,409)	2,378,567	-	2,378,567
16	Outside Services- Legal	14,317	-	14,317	-	14,317
17	Water Testing	28,365	-	28,365	-	28,365
18	Rents	10,647	-	10,647	-	10,647
19	Transportation Expenses	151,879	-	151,879	-	151,879
20	Insurance - General Liability	95,469	-	95,469	-	95,469
21	Insurance - Health and Life	3,319	-	3,319	-	3,319
22	Reg. Comm. Exp.	63,662	-	63,662	-	63,662
23	Reg. Comm. Exp. - Rate Case	70,000	-	70,000	-	70,000
24	Miscellaneous Expense	81,664	(827)	80,837	-	80,837
25	Bad Debt Expense	3,264	5,284	8,548	-	8,548
26	Depreciation Expense	2,291,982	(4,715)	2,287,267	-	2,287,267
27	Taxes Other Than Income	-	-	-	-	-
28	Property Taxes	373,338	6,870	380,208	-	380,208
29	Income Tax	(449,705)	164,523	(285,182)	2,629,557	2,344,375
30	Total Operating Expenses	<u>\$ 6,757,892</u>	<u>\$ 146,112</u>	<u>\$ 6,904,003</u>	<u>\$ 2,629,557</u>	<u>\$ 9,533,561</u>
31	Operating Income	<u>\$ (282,890)</u>	<u>\$ 257,595</u>	<u>\$ (25,294)</u>	<u>\$ 4,182,965</u>	<u>\$ 4,157,671</u>
32	Other Income (Expense)					
33	Interest Income	-	-	-	-	-
34	Other income (loss)	-	-	-	-	-
35	Interest Expense	(432,478)	4,119	(428,359)	-	(428,359)
36	Other Expense	-	-	-	-	-
37		<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
38	Total Other Income (Expense)	<u>\$ (432,478)</u>	<u>\$ 4,119</u>	<u>\$ (428,359)</u>	<u>\$ -</u>	<u>\$ (428,359)</u>
39	Net Profit (Loss)	<u>\$ (715,368)</u>	<u>\$ 261,715</u>	<u>\$ (453,653)</u>	<u>\$ 4,182,965</u>	<u>\$ 3,729,312</u>

SUPPORTING SCHEDULES:
Rejoinder C-1, page 2

RECAP SCHEDULES:
Rejoinder A-1

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 2.1
Witness: Bourassa

Continued on
Page 2.2

Line No.	Test Year Adjusted Results	1 Depreciation Expense	2 Property Taxes	3 Meals & Entertainment Expense	4 Bad Debt Expense	5 Normalize Fuel for Power Prod.	6 Revenue Annualization Goodyear	7 Chemicals Expense
1								
2	\$ 6,347,481						\$ 403,707	
3								
4								
5	\$ 127,522							
6	\$ 6,475,002	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 403,707	
7								
8								
9	\$ -							
10	5,011							
11	1,013,811							
12	58,147							
13	503,278							
14	44,001							
15								
16	12,469							
17	2,382,976							
18	14,317							
19	28,365							
20	10,647							
21	151,879							
22	95,489							
23	3,319							
24	63,662							
25	70,000							
26	81,664							
27	3,264							
28	2,291,982	(4,715)						
29								
30	373,338		6,870					
31	(449,705)							
32	\$ 6,757,892	\$ (4,715)	\$ 6,870	\$ (827)	\$ 5,284	\$ (20,309)	\$ -	\$ (305)
33	\$ (282,890)	\$ 4,715	\$ (6,870)	\$ 827	\$ (5,284)	\$ 20,309	\$ 403,707	\$ 305
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								

SUPPORTING SCHEDULES:
Rejoinder C-2

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 2.2
Witness: Bourassa

Continued from
Page 2.1

Line No.	Revenues	Capitalized Expenses	Unnecessary Expense	Central Office Costs	Interest Synchronization	Income Tax	13	Rejoinder Test Year Adjusted Results	Proposed Rate Increase	Rejoinder Adjusted with Rate Increase
1										
2	Metered Water Revenues							\$ 6,751,188	\$ 6,812,522	\$ 13,563,710
3	Unmetered Water Revenues									
4	Other Water Revenues									
5								127,522		127,522
6	Operating Expenses							\$ 6,878,709	\$ 6,812,522	\$ 13,691,231
7	Salaries and Wages									
8	Purchased Water							5,011		5,011
9	Purchased Power							1,013,811		1,013,811
10	Fuel for Power Production							37,839		37,839
11	Chemicals							502,973		502,973
12	Repairs and Maintenance							44,001		44,001
13	Office Supplies and Expense									
14	Outside Services							12,469		12,469
15	Outside Services- Other	(19,989)	(3,191)	18,771				2,378,567		2,378,567
16	Outside Services- Legal							14,317		14,317
17	Water Testing							28,365		28,365
18	Rents							10,647		10,647
19	Transportation Expenses							151,879		151,879
20	Insurance - General Liability							95,469		95,469
21	Insurance - Health and Life							3,319		3,319
22	Reg. Comm. Exp.							63,662		63,662
23	Reg. Comm. Exp. - Rate Case							70,000		70,000
24	Miscellaneous Expense							80,837		80,837
25	Bad Debt Expense							8,548		8,548
26	Depreciation Expense							2,287,267		2,287,267
27	Taxes Other Than Income									
28	Property Taxes							380,208		380,208
29	Income Tax					164,523		(285,182)	2,629,557	2,344,375
30	Total Operating Expenses	\$ (19,989)	\$ (3,191)	\$ 18,771	\$ -	\$ 164,523	\$ -	\$ 6,904,003	\$ 2,629,557	\$ 9,533,561
31	Operating Income	\$ 19,989	\$ 3,191	\$ (18,771)	\$ -	\$ (164,523)	\$ -	\$ (25,294)	\$ 4,182,965	\$ 4,157,671
32	Other Income (Expense)									
33	Interest Income									
34	Other income (loss)				4,119					
35	Interest Expense							(428,359)		(428,359)
36	Other Expense									
37										
38	Total Other Income (Expense)				\$ 4,119	\$ -	\$ -	\$ (428,359)	\$ -	\$ (428,359)
39	Net Profit (Loss)	\$ 19,989	\$ 3,191	\$ (18,771)	\$ 4,119	\$ (164,523)	\$ -	\$ (453,653)	\$ 4,182,965	\$ 3,729,312

SUPPORTING SCHEDULES:
Rejoinder C-2

RECAP SCHEDULES:
Rejoinder C-1, page 1

Exhibit
Rejoinder Schedule C-2
Page 1
Witness: Bourassa

Line No.	1	2	3	4	5	6	Subtotal
	Depreciation Expense	Property Taxes	Meals & Entertain.	Bad Debt Expense	Fuel for Power Prod.	Revenue Annualization	
Revenues						403,707	403,707
Expenses	(4,715)	6,870	(827)	5,284	(20,309)		(13,697)
Operating Income	4,715	(6,870)	827	(5,284)	20,309	403,707	417,404
Interest Expense							-
Other Income / Expense							-
Net Income	4,715	(6,870)	827	(5,284)	20,309	403,707	417,404
Adjustments to Revenues and Expenses							
	7	8	9	10	11	12	Subtotal
	Annualize Chemicals Expense	Capitalized Expenses	Unnecessary Expenses	Central Office Costs	Interest Synchronization	Income Taxes	
Revenues							403,707
Expenses	(305)	(19,989)	(3,191)	18,771		164,523	146,112
Operating Income	305	19,989	3,191	(18,771)	-	(164,523)	257,595
Interest Expense							
Other Income / Expense					4,119		4,119
Net Income	305	19,989	3,191	(18,771)	4,119		261,715

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses
Adjustment Number 1

Exhibit
Rejoinder Schedule C-2
Page 2
Witness: Bourassa

Line No.	Acct.	No.	Description	Rejoinder Adjusted Original Cost	Proposed Rates	Rejoinder Depreciation Expense
1			<u>Depreciation Expense</u>			
2						
3						
4						
5		301	Organization Cost	21,100	0.00%	-
6		302	Franchise Cost	-	0.00%	-
7		303	Land and Land Rights	1,284,595	0.00%	-
8		304	Structures and Improvements	24,649,251	3.33%	820,820
9		305	Collecting and Impounding Res.	-	2.50%	-
10		306	Lake River and Other Intakes	-	2.50%	-
11		307	Wells and Springs	2,393,491	3.33%	79,703
12		308	Infiltration Galleries and Tunnels	-	6.67%	-
13		309	Supply Mains	-	2.00%	-
14		310	Power Generation Equipment	202,269	5.00%	10,113
15		311	Electric Pumping Equipment	917,055	12.50%	114,632
16		320	Water Treatment Equipment	1,337,824	3.33%	44,550
17		320.1	Water Treatment Plant	1,885,770	3.33%	62,796
18		320.2	Chemical Solution Feeders	-	20.00%	-
19		330	Dist. Reservoirs & Standpipe	439,244	2.22%	9,751
20		330.1	Storage tanks	-	2.22%	-
21		330.2	Pressure Tanks	-	5.00%	-
22		331	Trans. and Dist. Mains	28,929,171	2.00%	578,583
23		333	Services	4,249,744	3.33%	141,516
24		334	Meters	4,138,752	8.33%	344,758
25		335	Hydrants	2,055,781	2.00%	41,116
26		336	Backflow Prevention Devices	38,387	6.67%	2,560
27		339	Other Plant and Misc. Equip.	259,531	6.67%	17,311
28		340	Office Furniture and Fixtures	551,757	6.67%	36,802
29		340.1	Computers and Software	-	20.00%	-
30		341	Transportation Equipment	177,165	20.00%	35,433
31		342	Stores Equipment	31,711	4.00%	1,268
32		343	Tools and Work Equipment	23,350	5.00%	1,168
33		344	Laboratory Equipment	-	10.00%	-
34		345	Power Operated Equipment	-	5.00%	-
35		346	Communications Equipment	119,710	10.00%	11,971
36		347	Miscellaneous Equipment	-	10.00%	-
37		348	Other Tangible Plant	-	10.00%	-
38						
39			TOTALS	\$ 73,705,658		\$ 2,354,852
40						
41			Less: Amortization of Contributions			
42		311	Electric Pumping Equipment	\$ 15,219	12.5000%	\$ (1,902)
43		331	Trans. and Dist. Mains	2,854,613	2.0000%	(57,092)
44		333	Services	151,402	3.3300%	(5,042)
45		334	Meters	29,899	8.3300%	(2,491)
46		335	Hydrants	52,935	2.0000%	(1,059)
47				\$ 3,104,068		\$ (67,586)
48						
49			Total Depreciation Expense			\$ 2,287,267
50						
51			Test Year Depreciation Expense			2,291,982
52						
53			Increase (decrease) in Depreciation Expense			(4,715)
54						
55			Adjustment to Revenues and/or Expenses			\$ (4,715)
56						
57			<u>SUPPORTING SCHEDULE</u>			
58			B-2, page 3			
59			B-2, page 6.4			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 2

Exhibit
Rejoinder Schedule C-2
Page 3
Witness: Bourassa

Line
No.

1	<u>Property Taxes:</u>		
2			
3	Adjusted Revenues in year ended 09/30/08	\$	6,878,709
4	Adjusted Revenues in year ended 09/30/08		6,878,709
5	Proposed Revenues		13,691,231
6	Average of three year's of revenue	\$	9,149,550
7	Average of three year's of revenue, times 2	\$	18,299,100
8	Add:		
9	Construction Work in Progress at 10%	\$	-
10	Deduct:		
11	Book Value of Transportation Equipment		94,101
12			
13	Full Cash Value	\$	18,204,999
14	Assessment Ratio		21%
15	Assessed Value		3,823,050
16	Property Tax Rate		9.5187%
17			
18	Property Tax		363,906
19	Plus: Tax on Parcels		16,302
20			
21	Total Property Tax at Proposed Rates	\$	380,208
22	Property Taxes recorded during the test year		373,338
23	Change in Property Taxes	\$	6,870
24			
25			
26	Adjustment to Revenues and/or Expenses	\$	6,870
27			
28			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 3

Exhibit
Rejoinder Schedule C-2
Page 4
Witness: Bourassa

Line

No.

1 Miscellaneous Expense

2

3

4 Beverages expenses included in Miscellaneous expense \$ (827)

5

6

7

8 Increase(decrease) in Materials and Supplies \$ (827)

9

10

11 Adjustment to Revenue and/or Expense \$ (827)

12

13 SUPPORTING SCHEDULES

14 Staff Schedule JMM-W16 Adjustment #3

15

16

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 4

Exhibit
Rejoinder Schedule C-2
Page 5
Witness: Bourassa

Line

No.

1 Bad Debt Expense

2

3

4 Normalized Bad Debt Expense

\$ 8,548

5

6 Bad Debt Expense per Direct

3,264

7

8

9 Increase(decrease) in Bad Debt Expense

\$ 5,284

10

11

12 Adjustment to Revenue and/or Expense

\$ 5,284

13

14

15 SUPPORTING SCHEDULES

16 Staff Schedule JMM-W17 Adjustment #4

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 7

Exhibit
Rejoinder Schedule C-2
Page 6
Witness: Bourassa

Line

No.

1	<u>Normalize Fuel For Power Production</u>	
2		
3	2006 - Fuel for Power Production expense	\$ 309
4	2007 - Fuel for Power Production expense	55,059
5	2008 - Fuel for Power Production expense	<u>58,147</u>
6	Total	\$ <u>113,516</u>
7		
8	Normalization period - 3 years	3.00
9		
10	Normalized Fuel for Power Production expense	\$ 37,839
11		
12	Adjusted Test Year Fuel for Power Production expense	<u>58,147</u>
13		
14	Increase(decrease) in Fuel for Power Production	<u>\$ (20,309)</u>
15		
16		
17	Adjustment to Revenue and/or Expense	<u>\$ (20,309)</u>
18		
19	<u>SUPPORTING SCHEDULES</u>	
20	E-2	

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 6

Exhibit
Rejoinder Schedule C-2
Page 7
Witness: Bourassa

Line

No.

1 Revenue Annualization

2

3

4 Reverse Proforma Reduction if Revenues from City of Goodyear

\$ 403,707

5

6

7 Increase(decrease) in Revenues

\$ 403,707

8

9

10 Adjustment to Revenue and/or Expense

\$ 403,707

11

12

13

14

15

16

17

18 SUPPORTING SCHEDULE

19 RUCO Schedule 4, page 2 of 15 Adjustment No. 1

20

21

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 7

Exhibit
Rejoinder Schedule C-2
Page 8
Witness: Bourassa

Line

No.

1 Chemicals Expense

2

3

4 Hills Brothers Chemicals expense outside the test year.

\$ (305)

5

6

7 Increase(decrease) in Chemicals Expense

\$ (305)

8

9

10 Adjustment to Revenue and/or Expense

\$ (305)

11

12

13

14

15

16

17

18

19

20

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 8

Exhibit
Rejoinder Schedule C-2
Page 9
Witness: Bourassa

Line

No.

1 Capitalized Expenses

2

3

4

5 307 - Wells and Springs - Hydro Controls and Pump Systems (clocks for wells) \$ (1,114)

6 307 - Wells and Springs - Southwest Grd Wtr Consult. (well spacing evaluation) (1,380)

7 307 - Wells and Springs - Southwest Grd Wtr Consult. (well impact analysis) (4,823)

8 307 - Wells and Springs - Southwest Grd Wtr Consult. (well rehabilitation) (4,072)

9 331 - Distribution Mains - Narasimhan Consulting Services (Dist. Sys. Eval.) (8,600)

10

11 Total Capitalized Expenses \$ (19,989)

12

13 Increase(decrease) in Contractual Services - Other \$ (19,989)

14

15

16 Adjustment to Revenue and/or Expense \$ (19,989)

17

18

19 SUPPORTING SCHEDULE

20 Rejoinder B-2, page 3.3

21

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 9

Exhibit
Rejoinder Schedule C-2
Page 10
Witness: Bourassa

Line

No.

1 Remove Unncessary Expense

2

3 Meals and Entert: Exp cost for the DBack game

\$ (6,400)

4 Meals and Entert: BALANCE DUE FOR 2008 XMAS PART

(953)

5 Meals and Entert: DJ SERVICE - XMAS PARTY

(495)

6 Meals and Entert: For Holiday Party Dec. 2008

(4,959)

7 Meals and Entert: Catered Lunch

(412)

8 Total

\$ (13,219)

9

10 Water Divison 4-factor allocation %

24.14%

11

12 Increase (decrease) in Contractual Services - Other

\$ (3,191)

13

14

15 Adjustment to Revenue and/or Expense

\$ (3,191)

16

17

18

19

20

		<u>Central Office Costs - Infrastructure Allocation</u>							
	No.		Actual Total	Adjustments	Rejoinder Total	Utility Infrastructure Group Allocation %	Utility Infrastructure Group Allocated	LPSCo Allocation by Customer Count	Rejoinder LPSCo Allocation
			<u>Cost Pool¹</u>	<u>Cost Pool¹</u>	<u>Cost Pool¹</u>		<u>Cost Pool¹</u>		<u>Allocation</u>
	1	Audit	\$ 987,476		\$ 987,476	26.98%	\$ 266,462	23.32%	62,139
	2	Tax Services	383,940		383,940	26.98%	103,603	23.32%	24,160
	3	Legal	722,428		722,428	26.98%	194,941	23.32%	45,460
	4	Other Professional Services	448,761		448,761	26.98%	121,094	23.32%	28,239
	5	Management Fee - Total	636,255		636,255	26.98%	171,688	23.32%	40,038
	6	Unit Holder Communications	277,582		277,582	26.98%	74,903	23.32%	17,467
	7	Trustee Fees	225,052		225,052	26.98%	60,728	23.32%	14,162
	8	Escrow & Transfer Agent Fees	63,843		63,843	26.98%	17,227	23.32%	4,017
	9	Rent	295,887		295,887	26.98%	79,843	23.32%	18,619
	10	Licenses/Fees & Permits	128,206	(145,642) ¹	(17,436)	26.98%	-4,705	23.32%	(1,097)
	11	Office Expenses	761,628	(46,186) ¹	715,442	26.98%	193,056	23.32%	45,021
	12	Depreciation	194,727		194,727	26.98%	52,545	23.32%	12,254
	13	Total (Canadian dollars CAD)	\$ 5,125,785	\$ (191,828)	\$ 4,933,957		\$ 1,331,385		\$ 310,479
	14	Factor	1.00	1.00	1.00		1.00		1.00
	15	Total (US dollars USD)	\$ 5,125,785	\$ (191,828)	\$ 4,933,957		\$ 1,331,385		\$ 310,479
	16	Infrastructure Cost Allocation per Direct (USD) ²							\$ 291,708
	17	Increase (decrease) in Infrastructure Allocated Costs (USD)							\$ 18,771
	18	Adjustment to Revenues and/or Expenses							\$ 18,771

¹ Per Response to JMM 5.5² Per Response to JMM 1.42

100

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 11

Exhibit
Rejoinder Schedule C-2
Page 12
Witness: Bourassa

Line
No.

1 Interest Synchronization

2

3

4 Fair Value Rate Base \$ 37,762,676

5 Weighted Cost of Debt 1.13%

6 Interest Expense \$ 428,359

7

8 Test Year Interest Expense \$ 432,478

9

10 Increase (decrease) in Interest Expense (4,119)

11

12

13

14 Adjustment to Revenue and/or Expense \$ 4,119

15

16

17 Weighted Cost of Debt Computation

18

	<u>Amount</u>	<u>Percent</u>	<u>Cost</u>	<u>Weighted Cost</u>
20 Debt	\$ 11,506,844	17.74%	6.39%	1.13%
21 Equity	\$ 53,361,545	82.26%	12.00%	9.87%
22 Total	\$ 64,868,389	100.00%		11.01%

23

24

25

26

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Adjustment to Revenues and/or Expenses
 Adjustment Number 12

Exhibit
 Rejoinder Schedule C-2
 Page 13
 Witness: Bourassa

Line
No.

1	<u>Income Tax Computation</u>		
2			
3			
4			
5			
6			
7	Taxable Income before adjustments	\$ (738,835)	\$ 6,073,687
8	Adjustments to taxable Income		
9	Taxable Income	<u>\$ (738,835)</u>	<u>\$ 6,073,687</u>
10			
11			
12			
13	Income Before Taxes	<u>\$ (738,835)</u>	<u>\$ 6,073,687</u>
14			
15	Arizona Income Before Taxes		\$ 6,073,687
16			
17	Less Arizona Income Tax		<u>\$ 423,215</u>
18	Rate = 6.97%		
19	Arizona Taxable Income		\$ 5,650,473
20			
21	Arizona Income Taxes		\$ 423,215
22			
23	Federal Income Before Taxes		\$ 6,073,687
24			
25	Less Arizona Income Taxes		<u>\$ 423,215</u>
26			
27	Federal Taxable Income		<u>\$ 5,650,473</u>
28			
29			
30			
31	FEDERAL INCOME TAXES:		
32	15% BRACKET		\$ 7,500
33	25% BRACKET		\$ 6,250
34	34% BRACKET		\$ 8,500
35	39% BRACKET		\$ 91,650
36	34% BRACKET		\$ 1,807,261
37			Rate
38	Federal Income Taxes		<u>\$ 1,921,161</u> 31.63%
39			
40			
41	Total Income Tax		<u>\$ 2,344,375</u>
42			
43	Overall Tax Rate		<u>38.60%</u>
44			
45	Income Tax at Proposed Rates Effective Rate	→ \$ (285,182)	
46			

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Computation of Gross Revenue Conversion Factor

Exhibit
Rejoinder Schedule C-3
Page 1
Witness: Bourassa

Line		Percentage of Incremental Gross Revenues
No.	Description	
1	Federal Income Taxes	31.63%
2		
3	State Income Taxes	6.97%
4		
5	Other Taxes and Expenses	0.00%
6		
7		
8	Total Tax Percentage	38.60%
9		
10	Operating Income % = 100% - Tax Percentage	61.40%
11		
12		
13		
14		
15	<u>1</u> = Gross Revenue Conversion Factor	
16	Operating Income %	1.6286
17		
18	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>
19		Rejoinder A-1
20		

**Exhibit
Rejoinder Schedule G-1
Page 1
Witness: Bourassa**

- 1 Allocated based on customer counts.
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
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- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Returns at Proposed Rates

Line No.	Meter Size-->	Totals	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	Hydrant	4"	8"	10"
1	Water Revenues	\$ 13,538,833	\$ 55,423	\$ 4,818,428	\$ 4,926,845	\$ 474,629	\$ 2,335,346	\$ 115,392	\$ 322,128	\$ 458,658	\$ 31,984
2	Revenue Annualizations	26,152	2,042	(19,423)	(15,507)	14,001	25,170	2,116	17,752	-	-
3	Misc. Revenues ¹	127,522	1,793	74,129	44,936	1,490	4,789	188	172	16	8
4	Reconciliation H-1 to C-1 ¹	(1,275)	(18)	(741)	(449)	(15)	(48)	(2)	(2)	(0)	(0)
5	Total Revenues	\$ 13,691,231	\$ 59,240	\$ 4,872,393	\$ 4,955,825	\$ 490,105	\$ 2,365,257	\$ 117,695	\$ 340,050	\$ 458,675	\$ 31,992
6											
7	Operating Expenses ²	\$ 4,521,711	\$ 34,133	\$ 1,833,511	\$ 1,507,531	\$ 139,763	\$ 700,698	\$ 26,694	\$ 91,451	\$ 178,156	\$ 9,774
8	Depreciation and										
9	Amortization ²	2,287,267	16,189	951,448	870,425	56,060	324,444	13,321	33,425	15,797	6,157
10	Property Tax ³	380,208	1,645	135,307	137,624	13,610	65,684	3,268	9,443	12,737	888
11	Income Tax ⁴	2,344,375	1,600	684,296	877,048	104,238	470,408	27,891	77,097	96,423	5,375
12	Total Operating Expenses	\$ 9,533,561	\$ 53,567	\$ 3,604,562	\$ 3,392,628	\$ 313,671	\$ 1,561,234	\$ 71,174	\$ 211,416	\$ 303,114	\$ 22,194
13	Operating Income	\$ 4,157,671	\$ 5,674	\$ 1,267,831	\$ 1,563,197	\$ 176,434	\$ 804,023	\$ 46,521	\$ 128,634	\$ 155,561	\$ 9,797
14	Interest Expense ⁵	432,493	3,132	180,494	169,581	10,801	56,551	2,202	6,128	2,346	1,257
15	Net Income	\$ 3,725,178	\$ 2,542	\$ 1,087,337	\$ 1,393,616	\$ 165,632	\$ 747,472	\$ 44,319	\$ 122,506	\$ 153,215	\$ 8,541
16	Rate Base ⁶	\$ 37,741,576	\$ 273,299	\$ 15,750,879	\$ 14,798,490	\$ 942,582	\$ 4,934,979	\$ 192,140	\$ 534,797	\$ 204,752	\$ 109,657
17	Return on Rate Base ⁷	11.02%	2.08%	8.05%	10.56%	18.72%	16.29%	24.21%	24.05%	75.98%	8.93%
18											
19	Percent of Total Customers		1.406%	58.131%	35.238%	1.168%	3.756%	0.148%	0.135%	0.013%	0.006%
20											
21											

¹ Allocated based on customer counts.
² Operating Expenses and Depreciation computations are shown on Schedule G-4, Page 1.
³ Property Taxes allocation based on Revenues
⁴ Income Tax from Schedule C-1, at Proposed Rates. Income Taxes allocated based on taxable income
⁵ Interest Synchronized Interest Expense. Allocation based on Rate Base
⁶ Rate Base computations are shown on Schedule G-3, Page 1
⁷ Operating Income Divided by Rate Base
⁸ 8 Inch customer (Goodyear) is expected to leave system in the future. See testimony of Greg Sorenson.

Exhibit
Rejoinder Schedule G-3
Page 1
Witness: Bourassa

Cost of Service Study Using Commodity / Demand Method

Allocation of Assets to Customer Classes

[illegible]

Exhibit
Rejoinder Schedule G-4
Page 1
Witness: Bourassa

Cost of Service Study, Using Commodity Demand Method

Cost of Service Study, Using Commodity Demand Method Allocation of Expenses to Customer Classes

[illegible]

Exhibit
Rejoinder Schedule G-4
Page 2
Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Allocation of Rate Base by Function

Exhibit
Rejoinder Schedule G-5
Page 1
Witness: Bourassa

Line No.	Rate Base	Adjusted	Demand	Commodity	Customer	Meter	Service	Totals
1	Plant minus (Accumulated Depreciation	\$ 37,741,576	\$ 31,240,721	\$ 629,302	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790	\$ 37,741,576
2	Contributions in Aid of Construction							
3	Advances in Aid of Construction,							
4	Meter Deposits and Deferred Income Tax)							
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
		37,741,576	31,240,721	629,302	2,507,043	1,308,720	2,055,790	37,741,576

Exhibit
Rejoinder Schedule G-5
Page 2
Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Allocation of Plant, Less Contributions and Advances in Aid of
Construction, Meter Deposits and Accumulated Depreciation to Functions

Exhibit
Rejoinder Schedule G-5
Page 2.1
Witness: Bourassa

Line No.	Account No.	Description	Original Cost Plant	Accumulated Depreciation	Total Net Plant Values	Demand	Commodity	Customer	Meter	Service
1		General Plant Continued								
2	347	Miscellaneous Equipment	-	-	-	-	-	-	-	-
3	348	Other Tangible Plant	-	-	-	-	-	-	-	-
4		Subtotal General Plant	\$ 903,694	\$ 238,476	\$ 665,218	\$ 48,021	\$ -	\$ 570,834	\$ -	\$ 46,363
5		Total Plant	\$ 73,684,558	\$ 9,027,020	\$ 64,657,538	\$ 53,490,775	\$ 3,101,531	\$ 2,462,702	\$ 2,207,123	\$ 3,395,408
6										
7		Contributions in Aid of Construction, Net	(3,096,180)	860,706	(2,235,474)	(1,977,529)	(219,725)	(38,220)		
8		Advances in Aid of Construction	(22,336,975)		(22,336,975)	(20,103,277)	(2,233,697)			
9		Meter Deposits	(2,238,022)		(2,238,022)				(898,404)	(1,339,618)
10		Deferred Income Tax	(188,053)		(188,053)	(169,248)	(18,805)			
11		Deferred Reg Assets	82,561		82,561			82,561		
12		Unamortized Debt Service Costs	-		-			-		
13		Totals	\$ 45,907,890	\$ 9,887,726	\$ 37,741,576	\$ 31,240,721	\$ 629,302	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790
14		Rate Bases (Plant - (AIAC, CIAC, Meter Deposits & Accum. Depr.)			\$ 37,741,576	\$ 31,240,721	\$ 629,302	\$ 2,507,043	\$ 1,308,720	\$ 2,055,790

Litchfield Park Service Company - Water Division

Test Year Ended September 30, 2008

Cost of Service Study, Using Commodity Demand Method

Allocation of Expenses to Functions

Exhibit

Rejoinder Schedule G-6

Page 1

Witness: Bourassa

Line No.	Description	Adjusted	Demand	Commodity	Customer	Meter	Service	Totals
1	Salaries and Wages ¹	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Purchased Water ¹	5,011	-	5,011	-	-	-	5,011
3	Purchased Power ¹	1,013,811	-	1,013,811	-	-	-	1,013,811
4	Fuel For Power Production ¹	37,839	-	37,839	-	-	-	37,839
5	Chemicals ¹	502,973	-	502,973	-	-	-	502,973
6	Repairs and Maintenance ¹	44,001	39,600	4,400	-	-	-	44,001
7	Office Supplies and Expense	-	-	-	-	-	-	-
8	Outside Services	12,469	-	-	12,469	-	-	12,469
9	Outside Services - Other ¹	2,378,567	951,427	475,713	951,427	-	-	2,378,567
10	Outside Services - Legal	14,317	-	-	14,317	-	-	14,317
11	Water Testing ¹	28,365	25,529	2,837	-	-	-	28,365
12	Rents	10,647	-	-	10,647	-	-	10,647
13	Transportation Expenses ¹	151,879	37,970	-	113,909	-	-	151,879
14	Insurance - General Liability	95,469	-	-	95,469	-	-	95,469
15	Insurance - Health and Life	3,319	-	-	3,319	-	-	3,319
16	Reg. Comm. Exp.	63,662	-	-	63,662	-	-	63,662
17	Reg. Comm. Exp. - Rate Case	70,000	63,000	-	7,000	-	-	70,000
18	Miscellaneous Expense	80,837	-	-	80,837	-	-	80,837
19	Bad Debt Expense	8,548	-	-	8,548	-	-	8,548
20	Depreciation Expense ²	2,287,267	1,607,576	86,101	114,848	342,267	136,475	2,287,267
21	Taxes Other Than Income	-	-	-	-	-	-	-
22	Property Taxes, Allocated on Schedules G-1 & G-2	380,208	-	-	-	-	-	380,208
23	Income Tax, Allocated on Schedules G-1 & G-2	2,344,375	-	-	-	-	-	2,344,375
24								
25	Total	\$ 9,533,561	\$ 2,725,101	\$ 2,128,683	\$ 1,476,452	\$ 342,267	\$ 136,475	\$ 6,808,978
26								
27								

¹ See Schedule G-7, page 2.1.

² Depreciation allocation computed on Schedule G-6, Page 2.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Allocation of Depreciation Expense to Functions

Exhibit
Rejoinder Schedule G-6
Page 2
Witness: Bourassa

Line No.	Account No.	Description	Original Cost	Depreciation Rate	Depreciation Expense	Total Depr. Expense	Demand	Commodity	Customer	Meter	Service
1	Intangible										
2	301	Organization	\$ -		\$ -						
3	302	Franchises	-		-						
4											
5	Subtotal Intangible		\$ -		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
6											
7		Source of Supply & Pumping Plant									
8	303	Land and Land Rights	\$ 1,284,595	0.000%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	304	Structures and Improvements	24,649,251	3.330%	820,820	820,820	820,820	-	-	-	-
10	305	Collecting and Impounding Res.	-	2.500%	-	-	-	-	-	-	-
11	306	Lakes, Rivers, Other Intakes	-	2.500%	-	-	-	-	-	-	-
12	307	Wells and Springs	2,393,491	3.330%	79,703	79,703	71,733	7,970	-	-	-
13	308	Infiltration Galleries and Tunnels	-	6.670%	-	-	-	-	-	-	-
14	309	Supply Mains	-	2.000%	-	-	-	-	-	-	-
15	310	Power Generation Equipment	202,269	5.000%	10,113	10,113	9,102	1,011	-	-	-
16	311	Electric Pumping Equipment	917,055	12.500%	114,632	114,632	103,169	11,463	-	-	-
17	Subtotal Source of Supply & Pumping Plant		\$ 29,446,661		\$ 1,025,269	\$ 1,025,269	\$ 1,004,824	\$ 20,445	\$ -	\$ -	\$ -
18											
19		Water Treatment									
20	320	Water Treatment Equipment	3,223,594	3.330%	107,346	107,346	96,611	10,735	-	-	-
21	Subtotal Water Treatment		\$ 3,223,594		\$ 107,346	\$ 107,346	\$ 96,611	\$ 10,735	\$ -	\$ -	\$ -
22											
23		Transmission and Distribution Plant									
24	330	Distribution Reservoirs & Standpipe	\$ 439,244	2.220%	\$ 9,751	\$ 9,751	\$ 8,776	\$ 975	\$ -	\$ -	\$ -
25	331	Transmission and Distribution Mains	28,929,171	2.000%	578,583	578,583	520,725	57,858	-	-	-
26	333	Services	4,249,744	3.330%	141,516	141,516	-	-	-	-	141,516
27	334	Meters	4,138,752	8.330%	344,758	344,758	-	-	-	344,758	-
28	335	Hydrants	2,055,781	2.000%	41,116	41,116	-	-	41,116	-	-
29	336	Backflow Prevention Devices	38,387	6.670%	2,560	2,560	2,304	256	-	-	-
30	339	Other Plant and Miscellaneous Equipment	259,531	6.670%	17,311	17,311	15,580	1,731	-	-	-
31	Subtotal Transmission and Distribution Plant		\$ 40,110,609		\$ 1,135,596	\$ 1,135,596	\$ 547,385	\$ 60,821	\$ 41,116	\$ 344,758	\$ 141,516
32											
33		General Plant									
34	340	Office Furniture and Fixtures	\$ 551,757	6.670%	\$ 36,802	\$ 36,802	\$ -	\$ -	\$ 36,802	\$ -	\$ -
35	341	Transportation Equipment	177,165	20.000%	35,433	35,433	8,858	-	26,575	-	-
36	342	Stores Equipment	31,711	4.000%	1,268	1,268	-	-	1,268	-	-
37	343	Tools and Work Equipment	23,350	5.000%	1,168	1,168	-	-	1,168	-	-
38	344	Laboratory Equipment	-	10.000%	-	-	-	-	-	-	-
39	345	Power Operated Equipment	-	5.000%	-	-	-	-	-	-	-
40	346	Communications Equipment	119,710	10.000%	11,971	11,971	2,993	-	8,978	-	-

Exhibit
Schedule
Page 2.1
Witness: Bourassa

Line	Account	Depreciation Rate	Depreciation Expense	Total Depr. Expense	Demand	Commodity	Customer	Meter	Service
1	General Plant Continued								
2	347 Miscellaneous Equipment	10.00%	-	-	-	-	-	-	-
3	348 Other Tangible Plant	10.00%	-	-	-	-	-	-	-
4	Subtotal General Plant								
5	Total Plant								
6									
7									
8	Less: Amortization of Contributions								
9	311 Electric Pumping Equipment	12.5000%	\$ (1,902)	\$ (1,902)	\$ (1,712)	\$ (190)			
10	331 Trans. and Dist. Mains	2.0000%	(57,092)	(57,092)	(51,383)	(5,709)			
11	333 Services	3.3300%	(5,042)	(5,042)					(5,042)
12	334 Meters	8.3300%	(2,491)	(2,491)				(2,491)	
13	335 Hydrants	2.0000%	(1,059)	(1,059)			(1,059)		
14	Total Depreciation Expense		\$ 2,287,267	\$ 2,287,267	\$ 1,607,576	\$ 86,101	\$ 114,848	\$ 342,267	\$ 136,475

Exhibit
Rejoinder Schedule G-7
Page 1
Witness: Bourassa

[illegible]

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
COMMODITY - DEMAND METHOD FUNCTION FACTORS
 Plant and Depreciation Expense Allocations Functions

Exhibit
 Rejoinder Schedule G-7
 Page 2
 Witness: Bourassa

Line
No.

	<u>Description</u>	<u>Total</u>	<u>Demand</u>	<u>Commodity</u>	<u>Customer</u>
1					
2					
3	Wells	1.00	0.90	0.10	
4	Pumps & Equipment	1.00	0.90	0.10	
5	Trans. & Dist. Mains	1.00	0.90	0.10	
6	Structures & Improv.	1.00	1.00		
7	Land	1.00	1.00		
8	Customer	1.00			1.00
9	Services	1.00			1.00
10	Meters	1.00			1.00
11	Fire Hydrants	1.00			1.00
12	Transportation Equip.	1.00	0.25		0.75
13	Office Furniture	1.00			1.00
14	Communication Equip.	1.00	0.25		0.75
15	Water Treatment Equip.	1.00	0.90	0.10	
16					
17					
18					
19					
20					

Line No.	Expense Type	Total	Demand	Commodity	Customer	Meters	Services
1	Repairs and Maintenance ¹	1.00	0.90	0.10	-	-	-
2	Contractual Services ²	1.00	0.40	0.20	0.40	-	-
3	Purchased Power/Fuel for Power Prod. ³	1.00	-	1.00	-	-	-
4	Purchased Water ⁴	1.00	-	1.00	-	-	-
5	Transportation ⁵	1.00	0.25	-	0.75	-	-
6	Chemicals ⁶	1.00	-	1.00	-	-	-
7	Water Testing ⁷	1.00	0.90	0.10	-	-	-
8	Salaries and Wages ⁸	1.00	0.40	0.20	0.40	-	-

¹ Estimated based on examination of costs in repairs and maintenance and professional judgement.

² Estimated based on examination of costs included in contractual services and professional judgement.

³ 100% related to pumping and water production.

⁴ 100% related to pumping and water production.

⁵ Based on allocation of transportation equipment. See G-7, page 2.

⁶ 100% related to water production.

⁷ Based on allocation of well plant and equipment. See G-7, page 2.

⁸ The Company does not have recorded salaries and wages expense. See allocation of contractual services.

21
22
23
24
25

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Development of Class Allocation Factors

Exhibit
Rejoinder Schedule G-7
Page 3
Witness: Bourassa

COMMODITY ALLOCATION FACTOR

<u>Meter Size</u>	(a) Total Gallons (in 1,000's) <u>In Test Year</u>	Percent of <u>Total</u>
5/8" x 3/4"	13,649	0.38%
3/4"	1,042,724	29.22%
1"	1,009,774	28.30%
1-1/2"	164,274	4.60%
2"	866,848	24.29%
Hydrant	32,587	0.91%
4"	126,502	3.54%
6"	-	0.00%
8"	301,780	8.457%
10"	10,338	0.290%
Totals	3,568,476	100.00%

DEMAND ALLOCATION FACTOR

<u>Meter Size</u>	Number of Meters and/or <u>Services</u>	Equiv- alent <u>Weight</u>	Equivalent Number of Meters and/or <u>Services</u>	Percent of <u>Total</u>
5/8" x 3/4"	219	1.0	219	0.64%
3/4"	9,055	1.5	13,583	39.83%
1"	5,489	2.5	13,723	40.24%
1-1/2"	182	5.0	910	2.67%
2"	585	8.0	4,680	13.73%
Hydrant	23	8.0	184	0.54%
4"	21	25.0	525	1.54%
6"	-	50.0	0	0.00%
8"	2	80.0	160	0.47%
10"	1	115.0	115	0.34%
Totals	15,577		34,098	100.00%

CUSTOMER ALLOCATION FACTOR

<u>Meter Size</u>	Number of Meters	Percent of <u>Total</u>
5/8" x 3/4"	219	1.41%
3/4"	9,055	58.13%
1"	5,489	35.24%
1-1/2"	182	1.17%
2"	585	3.76%
Hydrant	23	0.15%
4"	21	0.13%
6"	-	0.00%
8" (c)	2	0.01%
10"	1	0.01%
Totals	15,577	100.00%

SERVICES ALLOCATION FACTOR (b)

<u>Meter Size</u>	Number of <u>Services</u>	Install- ation <u>Cost</u>	Weighted Number <u>Services</u>	Percent of <u>Total</u>
5/8" x 3/4"	219	\$ 445.00	97,455	1.30%
3/4"	9,055	445.00	4,029,475	53.93%
1"	5,489	495.00	2,717,055	36.36%
1-1/2"	182	550.00	100,100	1.34%
2"	585	830.00	485,550	6.50%
Hydrant	23	-	0	0.00%
4"	21	1,670.00	35,070	0.47%
6"	0	2,330.00	0	0.00%
8"	2	2,330.00	4,660	0.06%
10"	1	2,330.00	2,330	0.03%
Totals	15,577		7,471,695	100.00%

METER ALLOCATION FACTOR (b)

<u>Meter Size</u>	Number of Meters	Meter <u>Cost</u>	Weighted Dollars of Meters	Percent of <u>Total</u>
5/8" x 3/4"	219	\$ 155.00	33,945	0.63%
3/4"	9,055	255.00	2,309,025	42.53%
1"	5,489	315.00	1,729,035	31.85%
1-1/2"	182	525.00	95,550	1.76%
2"	585	1,890.00	1,105,650	20.37%
Hydrant	23	2,545.00	58,535	1.08%
4"	21	3,645.00	76,545	1.41%
6"	0	6,920.00	0	0.00%
8"	2	6,920.00	13,840	0.25%
10"	1	6,920.00	6,920	0.13%
Totals	15,577		5,429,045	100.00%

(a) Includes customer and gallon sold annualization.

(b) Meter and Service Line cost from Arizona Corporation Commission Memo of February 21, 2008 from Marlin Scott, Jr.. Meter costs based on compound meters. Cost of service line and meter is based on costs allowed for a compound meter installation.

(c) 8 Inch customer(s) expected to leave system. See testimony of Greg Sorenson.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study Using Commodity / Demand Method
Computation of Monthly Minimums for Customer, Service, Meter
Using Function Costs and Expenses

Line No.		Customer	Service	Meter
1	Return on Rate Base	276,180	144,171	226,469
2	Misc. Revenues	(18)		
3	Customer, Services and Meter Expenses (From Sch. G-6, Page 1)	1,476,452	136,475	342,267
4	Property Taxes	380,208		
5	Income Taxes	2,344,375		
6	Total Revenue Requirement / Customer, Meter & Service (Line 13+15+16+17)	4,477,196	280,645	568,736
7				
8	Customer Charge			
9	Number of Bills =	15,577 times		
10		186,924		
11	Charge per Bill			
12	(Customer Revenue Requirement divided by Annualized Number of Bills)	\$ 23.95		
13				
14	Service Line and Meter Charge			
15	Equivalent 5/8 Meters		409,176	409,176
16				
17	Charge per Equivalent Meter		\$ 0.69	\$ 1.39
18				
19				
20	<u>CUSTOMER CHARGE:</u>			
21	Monthly Minimum for 5/8 Inch Meter (with no water included in Minimum or Demand Charge)			
22	Charge per Bill		\$ 23.95	
23	Charge per Equivalent Service Line		0.69	
24	Charge per Equivalent Meter		1.39	
25	(Service and Meter Revenue Requirement divided by Annual Equivalent Meters)			
26	Monthly Minimum for 5/8 Inch Meter, <u>WITHOUT</u> Demand Charge Included		\$ 26.03	

Exhibit
Rejoinder Schedule G-8
Page 2
Witness: Bourassa

5/8" Demand	Meter	Demand
<u>Charge</u>	<u>Ratio</u>	<u>Charge</u>
\$ 15.07	1.0 \$	15.07
\$ 15.07	1.5 \$	22.61
\$ 15.07	2.5 \$	37.68
\$ 15.07	5.0 \$	75.35
\$ 15.07	8.0 \$	120.57
\$ 15.07	16.0 \$	241.13
\$ 15.07	25.0 \$	376.77
\$ 15.07	50.0 \$	753.54

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Cost of Service Study Using Commodity / Demand Method
 Computation Demand Charge and Commodity

Exhibit
 Rejoinder Schedule G-8
 Page 3
 Witness: Bourassa

Line No.	Commodity	Customer	Service	Meter	Demand
1	Return on Rate Base	276,180	226,469	144,171	3,441,527
2	Less: Miscellaneous Revenues	(127,522)			
3					
4	Expenses (From Sch. G-6, Page 1)	1,476,452	136,475	342,267	2,725,101
5	Property taxes	380,208			
6	Income Taxes	2,344,375			
7	Total Revenue Requirement by function	4,349,693	362,944	486,438	6,166,628
8	Gallons Sold (in 1,000's)(Zero Gallons in Minimum) (G-7, page 3)	2,198,008			
9	Computed Commodity Rate	3,568,476			
10	Annualized Number of Bills	\$ 0.6160			
11	Equivalent Meters and Service Lines	186,924			
12	Customer Charge (line 18 divided by line 21)	\$ 23.27	409,176	409,176	409,176
13	Meter, Service Line & Demand Charge (Line 18 divided by Line 22)		\$ 0.89	\$ 1.19	\$ 15.07
14	Total Monthly Minimum Charge for a 5/8 Inch Meter (Sum of Customer				
15	Service Line, Meter and Demand Charge on Lines 23 & Line 24)				\$ 40.42
16					
17					
18	Monthly Minimum				
19	5/8 Inch Meter	5/8" Monthly Minimum	Meter Ratio	Demand Charge	
20	3/4 Inch Meter	\$ 40.42	1.0 \$	40.42	
21	1 Inch Meter	\$ 40.42	1.5 \$	60.62	
22	1 1/2 Inch Meter	\$ 40.42	2.5 \$	101.04	
23	2 Inch Meter	\$ 40.42	5.0 \$	202.08	
24	3 Inch Meter	\$ 40.42	8.0 \$	323.33	
25	4 Inch Meter	\$ 40.42	16.0 \$	646.66	
26	6 Inch Meter	\$ 40.42	25.0 \$	1,010.41	
27	8 Inch Meter	\$ 40.42	50.0 \$	2,020.83	
28		\$ 40.42	80.0 \$	3,233.32	
29					
30					
31					

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Cost of Service Study Using Commodity / Demand Method
 Computation Demand Charge and Commodity

Exhibit
 Rejoinder Schedule G-8
 Page 4
 Witness: Bourassa

Line No.	Single Tier Rate Design with Some Customer and Demand Costs recovered via the Commodity Rate	Total Rev. Req.	%	Portion of Rev. Req.	
1	Revenue Requirements Collected via Commodity Charge	\$ 5,199,074	45%	\$ 2,339,583	
2		6,166,628	45%	2,774,982	
3	Customer, Service, and Meter Costs	2,198,008	100%	2,198,008	
4	Demand Costs				
5	Commodity Costs				
6	Total Costs to be Collected via Commodity	\$ 7,312,574			
7	Gallons Sold	3,568,476			
8	Commodity Charge (per 1,000 gallons)			\$ 2.049	
9	Revenue Requirement Collected				
10	Monthly Minimum 5/8 Meter				
11	Total Revenue Requirement	\$ 13,563,710			
12	Less: Portion of Revenue Requirement Collected via Commodity Charge	(7,312,574)			
13	Balance to be Recovered through Monthly Minimum	\$ 6,251,136			46.09%
14	Number of Equivalent 5/8 Inch Meter Billings	409,176			
15	Computed Monthly Minimum 5/8 Inch Meter	\$ 15.28			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27	Meter Size	5/8"	Meter Ratio	Monthly Minimum	
28	5/8 Inch Meter	\$ 15.28	1.0	\$ 15.28	
29	3/4 Inch Meter	\$ 15.28	1.5	\$ 22.92	
30	1 Inch Meter	\$ 15.28	2.5	\$ 38.19	
31	1 1/2 Inch Meter	\$ 15.28	5.0	\$ 76.39	
32	2 Inch Meter	\$ 15.28	8.0	\$ 122.22	
33	3 Inch Meter	\$ 15.28	16.0	\$ 244.44	
34	4 Inch Meter	\$ 15.28	25.0	\$ 381.93	
35	6 Inch Meter	\$ 15.28	50.0	\$ 763.87	
36	8 Inch Meter	\$ 15.28	80.0	\$ 1,222.19	
37	10 Inch Meter	\$ 15.28			
38					

Exhibit

Test Year Ended September 30, 2008

Rejoinder Schedule G-9

Comparison of Proposed Rates to Computed Costs

Page 1

For a 5/8 Inch Residential Meter (With Required Operating Margin)

Witness: Bourassa

Column Number-->

Line No.	Water Usage	Revenues			Demand Charges	Customer Charges	Service		Commodity Charges	Total Charges & Costs	Total Revenues minus Total Charges
		Monthly Minimum	Commodity	Total			Line Charges	Meter Charges			
1	0	\$ 10.35	\$ -	\$ 10.35	\$ 15.07	\$ 23.27	\$ 0.89	\$ 1.19	0	\$ 40.42	\$ (30.07)
2	1,000	10.35	1.23	11.58	15.07	23.27	0.89	1.19	0.616	41.03	(29.45)
3	2,000	10.35	2.46	12.81	15.07	23.27	0.89	1.19	1.232	41.65	(28.84)
4	3,000	10.35	3.69	14.04	15.07	23.27	0.89	1.19	1.848	42.26	(28.22)
5	4,000	10.35	5.52	15.87	15.07	23.27	0.89	1.19	2.464	42.88	(27.01)
6	5,000	10.35	7.35	17.70	15.07	23.27	0.89	1.19	3.080	43.50	(25.80)
7	6,000	10.35	9.18	19.53	15.07	23.27	0.89	1.19	3.696	44.11	(24.58)
8	7,000	10.35	11.01	21.36	15.07	23.27	0.89	1.19	4.312	44.73	(23.37)
9	8,000	10.35	12.84	23.19	15.07	23.27	0.89	1.19	4.928	45.34	(22.15)
10	9,000	10.35	14.67	25.02	15.07	23.27	0.89	1.19	5.544	45.96	(20.94)
11	10,000	10.35	17.10	27.45	15.07	23.27	0.89	1.19	6.160	46.58	(19.13)
12	12,000	10.35	21.96	32.31	15.07	23.27	0.89	1.19	7.391	47.81	(15.50)
13	14,000	10.35	26.82	37.17	15.07	23.27	0.89	1.19	8.623	49.04	(11.87)
14	16,000	10.35	31.68	42.03	15.07	23.27	0.89	1.19	9.855	50.27	(8.24)
15	18,000	10.35	36.54	46.89	15.07	23.27	0.89	1.19	11.087	51.50	(4.61)
16	20,000	10.35	41.40	51.75	15.07	23.27	0.89	1.19	12.319	52.74	(0.99)
17	25,000	10.35	53.55	63.90	15.07	23.27	0.89	1.19	15.399	55.82	8.08
18	30,000	10.35	65.70	76.05	15.07	23.27	0.89	1.19	18.479	58.90	17.15
19	35,000	10.35	77.85	88.20	15.07	23.27	0.89	1.19	21.558	61.97	26.23
20	40,000	10.35	90.00	100.35	15.07	23.27	0.89	1.19	24.638	65.05	35.30
21	45,000	10.35	102.15	112.50	15.07	23.27	0.89	1.19	27.718	68.13	44.37
22	50,000	10.35	114.30	124.65	15.07	23.27	0.89	1.19	30.798	71.21	53.44
23	60,000	10.35	138.60	148.95	15.07	23.27	0.89	1.19	36.957	77.37	71.58
24	70,000	10.35	162.90	173.25	15.07	23.27	0.89	1.19	43.117	83.53	89.72
25	80,000	10.35	187.20	197.55	15.07	23.27	0.89	1.19	49.276	89.69	107.86
26	90,000	10.35	211.50	221.85	15.07	23.27	0.89	1.19	55.436	95.85	126.00
27	100,000	10.35	235.80	246.15	15.07	23.27	0.89	1.19	61.595	102.01	144.14

Litchfield Park Service Company - Water Division
 Exhibit
 Rejoinder Schedule G-9
 Page 2
 Witness: Bourassa

Test Year Ended September 30, 2008

Comparison of Proposed Rates to Computed Costs

For a 3/4 Inch Residential Meter (With Required Operating Margin)

Column Number-->										(9)
										(Col. 2 - Col. 8)
Line No.	Water Usage	Revenues			Service Line			Commodity		Total Charges & Costs
		Monthly Minimum	Commodity	Total	Demand Charges	Customer Charges	Line Charges	Meter Charges	Charges & Costs	
1	0	\$ 26.39	\$ -	\$ 26.39	\$ 22.61	\$ 34.90	\$ 1.33	\$ 1.78	\$ 60.62	\$ (34.23)
2	1,000	26.39	1.23	27.62	22.61	34.90	1.33	1.78	61.24	(33.62)
3	2,000	26.39	2.46	28.85	22.61	34.90	1.33	1.78	61.86	(33.00)
4	3,000	26.39	3.69	30.08	22.61	34.90	1.33	1.78	62.47	(32.39)
5	4,000	26.39	5.52	31.91	22.61	34.90	1.33	1.78	63.09	(31.18)
6	5,000	26.39	7.35	33.74	22.61	34.90	1.33	1.78	63.70	(29.96)
7	6,000	26.39	9.18	35.57	22.61	34.90	1.33	1.78	64.32	(28.75)
8	7,000	26.39	11.01	37.40	22.61	34.90	1.33	1.78	64.94	(27.53)
9	8,000	26.39	12.84	39.23	22.61	34.90	1.33	1.78	65.55	(26.32)
10	9,000	26.39	14.67	41.06	22.61	34.90	1.33	1.78	66.17	(25.11)
11	10,000	26.39	17.10	43.49	22.61	34.90	1.33	1.78	66.78	(23.29)
12	12,000	26.39	21.96	48.35	22.61	34.90	1.33	1.78	68.02	(19.66)
13	14,000	26.39	26.82	53.21	22.61	34.90	1.33	1.78	69.25	(16.04)
14	16,000	26.39	31.68	58.07	22.61	34.90	1.33	1.78	70.48	(12.41)
15	18,000	26.39	36.54	62.93	22.61	34.90	1.33	1.78	71.71	(8.78)
16	20,000	26.39	41.40	67.79	22.61	34.90	1.33	1.78	72.94	(5.15)
17	25,000	26.39	53.55	79.94	22.61	34.90	1.33	1.78	76.02	3.92
18	30,000	26.39	65.70	92.09	22.61	34.90	1.33	1.78	79.10	12.99
19	35,000	26.39	77.85	104.24	22.61	34.90	1.33	1.78	82.18	22.06
20	40,000	26.39	90.00	116.39	22.61	34.90	1.33	1.78	85.26	31.13
21	45,000	26.39	102.15	128.54	22.61	34.90	1.33	1.78	88.34	40.20
22	50,000	26.39	114.30	140.69	22.61	34.90	1.33	1.78	91.42	49.27
23	60,000	26.39	138.60	164.99	22.61	34.90	1.33	1.78	97.58	67.41
24	70,000	26.39	162.90	189.29	22.61	34.90	1.33	1.78	103.74	85.55
25	80,000	26.39	187.20	213.59	22.61	34.90	1.33	1.78	109.90	103.69
26	90,000	26.39	211.50	237.89	22.61	34.90	1.33	1.78	116.06	121.83
27	100,000	26.39	235.80	262.19	22.61	34.90	1.33	1.78	122.22	139.97

Total

Revenues

minus

Total

Charges

& Costs

Litchfield Park Service Company - Water Division
 Exhibit
 Rejoinder Schedule G-9
 Page 3
 Witness: Bourassa

Test Year Ended September 30, 2008
 Comparison of Proposed Rates to Computed Costs
 For a 1 Inch Residential Meter (With Required Operating Margin)

Line No.	Water Usage	Revenues			Demand Charges	Customer Charges	Service Line Charges	Meter Charges	Commodity Charges	Total Charges & Costs	(9) Total Revenues minus Total Charges & Costs (Col. 2 - Col. 8)
		Monthly Minimum	Commodity	Total							
1	0	\$ 43.99	\$ -	\$ 43.99	\$ 37.68	\$ 58.17	\$ 2.22	\$ 2.97	0	\$ 101.04	\$
2	1,000	43.99	1.83	45.82	37.68	58.17	2.22	2.97	0.616	101.66	(55.84)
3	2,000	43.99	3.66	47.65	37.68	58.17	2.22	2.97	1.232	102.27	(54.63)
4	3,000	43.99	5.49	49.48	37.68	58.17	2.22	2.97	1.848	102.89	(53.41)
5	4,000	43.99	7.32	51.31	37.68	58.17	2.22	2.97	2.464	103.51	(52.20)
6	5,000	43.99	9.15	53.14	37.68	58.17	2.22	2.97	3.080	104.12	(50.98)
7	6,000	43.99	10.98	54.97	37.68	58.17	2.22	2.97	3.696	104.74	(49.77)
8	7,000	43.99	12.81	56.80	37.68	58.17	2.22	2.97	4.312	105.35	(48.56)
9	8,000	43.99	14.64	58.63	37.68	58.17	2.22	2.97	4.928	105.97	(47.34)
10	9,000	43.99	16.47	60.46	37.68	58.17	2.22	2.97	5.544	106.58	(46.13)
11	10,000	43.99	18.30	62.29	37.68	58.17	2.22	2.97	6.160	107.20	(44.91)
12	12,000	43.99	21.96	65.95	37.68	58.17	2.22	2.97	7.391	108.43	(42.49)
13	14,000	43.99	25.62	69.61	37.68	58.17	2.22	2.97	8.623	109.66	(40.06)
14	16,000	43.99	29.28	73.27	37.68	58.17	2.22	2.97	9.855	110.90	(37.63)
15	18,000	43.99	32.94	76.93	37.68	58.17	2.22	2.97	11.087	112.13	(35.20)
16	20,000	43.99	36.60	80.59	37.68	58.17	2.22	2.97	12.319	113.36	(32.77)
17	25,000	43.99	48.75	92.74	37.68	58.17	2.22	2.97	15.399	116.44	(23.70)
18	30,000	43.99	60.90	104.89	37.68	58.17	2.22	2.97	18.479	119.52	(14.63)
19	35,000	43.99	73.05	117.04	37.68	58.17	2.22	2.97	21.558	122.60	(5.56)
20	40,000	43.99	85.20	129.19	37.68	58.17	2.22	2.97	24.638	125.68	3.51
21	45,000	43.99	97.35	141.34	37.68	58.17	2.22	2.97	27.718	128.76	12.58
22	50,000	43.99	109.50	153.49	37.68	58.17	2.22	2.97	30.798	131.84	21.65
23	60,000	43.99	133.80	177.79	37.68	58.17	2.22	2.97	36.957	138.00	39.79
24	70,000	43.99	158.10	202.09	37.68	58.17	2.22	2.97	43.117	144.16	57.93
25	80,000	43.99	182.40	226.39	37.68	58.17	2.22	2.97	49.276	150.32	76.07
26	90,000	43.99	206.70	250.69	37.68	58.17	2.22	2.97	55.436	156.48	94.21
27	100,000	43.99	231.00	274.99	37.68	58.17	2.22	2.97	61.595	162.64	112.35

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Revenue Summary
 With Annualized Revenues to Year End Number of Customers

Exhibit
 Rejoinder Schedule H-1
 Page 1
 Witness: Bourassa

Line No.	Meter Size	Class	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1	5/8 Inch	Residential	\$ 7,929	\$ 12,435	\$ 4,506	56.83%	0.12%	0.09%
2	3/4 Inch	Residential	2,023,567	4,705,562	2,681,996	132.54%	30.10%	34.76%
3	1 Inch	Residential	1,986,898	4,543,768	2,556,870	128.69%	29.56%	33.56%
4	1.5 Inch	Residential	54,252	96,697	42,445	78.24%	0.81%	0.71%
5	2 Inch	Residential	159,078	235,222	76,144	47.87%	2.37%	1.74%
6	4 Inch	Residential	19,356	32,168	12,813	66.20%	0.29%	0.24%
7								
8		Subtotal	4,251,079	9,625,853	5,374,774	126.43%	63.24%	71.10%
9								
10	5/8 Inch	Commercial	\$ 24,344	\$ 41,102	\$ 16,758	68.84%	0.36%	0.30%
11	3/4 Inch	Commercial	12,320	30,173	17,853	144.92%	0.18%	0.22%
12	1 Inch	Commercial	31,023	71,665	40,642	131.01%	0.46%	0.53%
13	1.5 Inch	Commercial	64,158	114,162	50,004	77.94%	0.95%	0.84%
14	2 Inch	Commercial	394,253	589,442	195,190	49.51%	5.86%	4.35%
15	4 Inch	Commercial	64,990	109,023	44,033	67.75%	0.97%	0.81%
16	10 Inch	Commercial	17,579	31,984	14,404	81.94%	0.26%	0.24%
17								
18		Subtotal	\$ 608,665	\$ 987,550	\$ 378,885	62.25%	9.05%	7.29%
19								
20								
21	5/8 Inch	Irrigation	\$ 1,076	\$ 1,867	\$ 810	75.28%	0.02%	0.01%
22	3/4 Inch	Irrigation	36,970	82,693	45,723	123.67%	0.55%	0.61%
23	1 Inch	Irrigation	151,173	311,412	160,239	106.00%	2.25%	2.30%
24	1.5 Inch	Irrigation	148,413	263,770	115,357	77.73%	2.21%	1.95%
25	2 Inch	Irrigation	908,626	1,510,681	602,055	66.26%	13.52%	11.16%
26	4 Inch	Irrigation	104,340	180,937	76,597	73.41%	1.55%	1.34%
27								
28		Subtotal	1,350,600	2,351,380	1,000,780	74.10%	20.09%	17.37%
29								
30		Hydrant	108,568	115,392	6,825	6.29%	1.61%	0.85%
31		Bulk Water	403,707	458,658	54,952	13.61%	6.01%	3.39%
32								
33		Total Revenues Before Annualization	\$ 6,722,618	\$ 13,538,833	\$ 6,816,215	101.39%	100.00%	100.00%
34								

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Revenue Summary
With Annualized Revenues to Year End Number of Customers

Exhibit
Rejoinder Schedule H-1
Page 2
Witness: Bourassa

Line No.	Meter Size	Class	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Additional Bills	Additional Gallons to be Pumped (in 1,000's)
1								
2								
3								
4	5/8 Inch	Residential	(64)	(101)	(36)	0.00%	(6)	(27) C-2, pg. 5.1
5	5/8 Inch	Residential	(8,221)	(18,578)	(10,357)	0.00%	(418)	(4,312) C-2, pg. 5.2
6	3/4 Inch	Residential	(6,783)	(13,890)	(7,107)	0.00%	(167)	(3,576) C-2, pg. 5.3
7	1 Inch	Residential	(1,235)	(2,128)	(893)	0.00%	(12)	(596) C-2, pg. 5.4
8	1.5 Inch	Residential	14,837	20,035	5,198	35.03%	119	6,349 C-2, pg. 5.5
9	2 Inch	Residential	-	-	-	0.00%	-	-
10	4 Inch	Residential	-	-	-	0.00%	-	-
11								
12								
13		Subtotal	(1,467)	(14,663)	(13,196)	899.80%	(484)	(2,262)
14	5/8 Inch	Commercial	1,321	2,143	822	62.27%	137	326 C-2, pg. 5.6
15	3/4 Inch	Commercial	(250)	(654)	(404)	0.00%	(17)	(107) C-2, pg. 5.7
16	1 Inch	Commercial	(2,335)	(5,418)	(3,083)	0.00%	(81)	(1,011) C-2, pg. 5.8
17	1.5 Inch	Commercial	1,280	2,210	930	72.63%	12	730 C-2, pg. 5.9
18	2 Inch	Commercial	19,732	27,215	7,483	37.93%	145	8,989 C-2, pg. 5.10
19	4 Inch	Commercial	11,068	17,752	6,683	60.38%	19	6,518 C-2, pg. 5.11
20	10 Inch	Commercial	-	-	-	0.00%	-	-
21								
22		Subtotal	30,816	43,249	(13,960)	-45.30%	215	15,444
23								
24								
25	5/8 Inch	Irrigation	-	-	-	0.00%	-	- C-2, pg. 5.12
26	3/4 Inch	Irrigation	(88)	(191)	(103)	0.00%	(3)	(53) C-2, pg. 5.13
27	1 Inch	Irrigation	1,889	3,801	1,912	101.23%	35	1,104 C-2, pg. 5.14
28	1.5 Inch	Irrigation	8,006	13,919	5,913	73.85%	67	4,728 C-2, pg. 5.15
29	2 Inch	Irrigation	(13,467)	(22,079)	(8,613)	0.00%	(43)	(8,435) C-2, pg. 5.16
30	4 Inch	Irrigation	-	-	-	0.00%	-	-
31								
32		Subtotal	(3,660)	(4,550)	(891)	24.33%	56	(2,656)
33								
34		Hydrant	1,990	2,116	126	6.35%	-	596 C-2, pg. 5.17
35		Bulk Water	-	-	-	0.00%	-	-
36								
37								
38		Total Revenue Annualization	27,680	26,152	(27,920)	-100.87%	(213)	11,122
39								

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Revenue Summary
With Annualized Revenues to Year End Number of Customers

Exhibit
Schedule H-1
Page 3
Witness: Bourassa

Line No.		Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1							
2	Subtotal Metered Revenues	\$ 6,722,618	\$ 13,538,833	\$ 6,816,215	101.39%	100.00%	100.00%
3	Subtotal Revenue Annualization	27,680	26,152	(1,527.87)	-5.52%	0.41%	0.19%
4	Total Metered Revenues	\$ 6,750,298	\$ 13,564,985	\$ 6,814,687	100.95%		
5							
6							
7	Misc. Revenues	\$ 127,522	\$ 127,522	-	0.00%	1.90%	0.94%
8	Reconciling Amount to GL	890	(1,275)	(2,165)	-243.26%	0.01%	-0.01%
9	Total Water Revenues	\$ 6,878,710	\$ 13,691,231	\$ 6,812,522	99.04%	0.00%	0.00%
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Customer Summary

Exhibit
Rejoinder Schedule H-2
Page 1
Witness: Bourassa

Line No.	Meter Size, Class	(a) Average Number of Customers at 9/30/2008	Average Consumption	Average Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58	4,661	\$ 10.80	\$ 17.08	6.27	58.07%
2	3/4 Inch Residential	8,919	9,537	18.64	42.37	23.73	127.31%
3	1 Inch Residential	5,209	14,556	31.56	70.62	39.06	123.75%
4	1.5 Inch Residential	44	57,667	102.47	176.41	73.94	72.15%
5	2 Inch Residential	101	58,065	130.90	177.90	47.00	35.91%
6	4 Inch Residential	3	308,972	537.59	851.55	313.96	58.40%
7	Subtotal	14,333					
8	Commercial	148	5,342	\$ 11.55	\$ 20.13	8.57	74.23%
9	3/4 Inch Commercial	57	8,000	16.61	41.03	24.42	147.03%
10	1 Inch Commercial	83	13,804	30.57	69.25	38.68	126.52%
11	1.5 Inch Commercial	46	67,854	115.92	201.16	85.24	73.54%
12	2 Inch Commercial	232	65,909	141.25	196.96	55.71	39.44%
13	4 Inch Commercial	8	388,827	643.00	1,045.60	402.60	62.61%
14	10 Inch Commercial	1	861,500	1,464.93	2,536.80	1,071.87	73.17%
15	Subtotal	575					
16	Irrigation	3	18,722	\$ 29.21	\$ 49.85	20.63	70.62%
17	3/4 Inch Irrigation	115	15,176	26.08	57.27	31.19	119.58%
18	1 Inch Irrigation	215	34,762	58.24	116.46	58.22	99.98%
19	1.5 Inch Irrigation	86	88,340	142.96	250.94	107.98	75.53%
20	2 Inch Irrigation	234	204,389	324.04	533.47	209.42	64.63%
21	4 Inch Irrigation	8	724,899	1,086.62	1,862.25	775.64	71.38%
22	Subtotal	661					
23	Hydrant	23	120,247	\$ 400.62	\$ 425.80	25.18	6.29%
24	Bulk Water	2	12,574,167	16,820.65	19,110.77	2,290.12	13.61%
25	Total	15,594					

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Customer Summary

Exhibit
Rejoinder Schedule H-2
Page 2
Witness: Bourassa

Line No.	Meter Size, Class	(a) Average Number of Customers at 9/30/2008	Median Consumption	Median Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58	3,000 \$	9.36 \$	14.04	4.68	50.00%
2	3/4 Inch Residential	8,919	7,000	15.29	37.40	22.11	144.62%
3	1 Inch Residential	5,209	10,000	25.55	62.29	36.74	143.79%
4	1.5 Inch Residential	44	24,000	58.03	98.20	40.17	69.21%
5	2 Inch Residential	101	21,000	81.97	105.23	23.26	28.38%
6	4 Inch Residential	3	5,000	136.35	217.90	81.55	59.81%
7	Subtotal	14,333					
8							
9	5/8 Inch Commercial	148	7,000 \$	13.74 \$	23.16	9.42	68.56%
10	3/4 Inch Commercial	57	-	9.17	28.22	19.05	207.77%
11	1 Inch Commercial	83	7,000	21.59	56.80	35.21	163.07%
12	1.5 Inch Commercial	46	43,000	83.11	140.77	57.66	69.37%
13	2 Inch Commercial	232	22,000	83.29	107.06	23.77	28.54%
14	8 Inch Commercial	2	11,056,000	14,816.67	16,863.88	2,047.21	13.82%
15	10 Inch Commercial	1	820,500	1,410.81	2,461.77	1,050.96	74.49%
16	Subtotal	569					
17							
18	5/8 Inch Irrigation	3	5,000 \$	11.10 \$	19.50	8.40	75.68%
19	3/4 Inch Irrigation	115	-	13.97	37.37	23.40	167.52%
20	1 Inch Irrigation	215	17,000	34.79	75.10	40.31	115.86%
21	1.5 Inch Irrigation	86	50,000	92.35	157.78	65.43	70.84%
22	2 Inch Irrigation	234	123,000	216.61	335.69	119.08	54.97%
23	4 Inch Irrigation	8	463,002	740.91	1,225.84	484.93	65.45%
24	Subtotal	661					
25							
26	Hydrant	23	27,000 \$	167.50 \$	199.21	31.71	18.93%
27	Bulk Water	2	11,056,000	14,816.67	16,863.88	2,047.21	13.82%
28							
29	Total	15,586					

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Present and Proposed Rates

Exhibit
 Rejoinder Schedule H-3
 Page 1
 Witness: Bourassa

Line No.	Monthly Usage Charge for: Meter Size (All Classes):	Present Rates	Proposed Rates	Change	Percent Change
1	1/8 Inch	\$ 6.75	\$ 10.35	\$ 3.60	53.33%
2	3/4 Inch	8.30	26.39	18.09	217.98%
3	1 Inch	14.60	43.99	29.39	201.28%
4	1 1/2 Inch	28.60	54.28	25.68	89.77%
5	2 Inch	56.50	66.80	10.30	18.23%
6	3 Inch	NT	133.60	133.60	
7	4 Inch	132.00	208.75	76.75	58.14%
8	6 Inch	NT	417.50	417.50	
9	8 Inch	225.00	501.00	276.00	122.67%
10	10 Inch	330.00	960.25	630.25	190.98%
11	12 Inch	450.00	1,252.50	802.50	178.33%
12	Construction - Hydrants	\$ 100.00	by meter size		
13	Bulk Water		by meter size		
14					
15	<u>Gallons In Minimum (All Meter Sizes and Classes)</u>				
16					
17					
18	<u>Commodity Rates</u>				
19	<u>(Residential, Commercial, Industrial)</u>				
20					
21	All Meter Sizes (except Construction)				
22					
23					
24					
25	5/8 Inch and 3/4 Inch Meter - Residential				
26					
27					
28					
29	5/8 Inch and 3/4 Inch Meter Com., Irr.				
30					
31					
32	1 Inch Meter - All Classes except Constr.				
33					
34					
35	1.5 Inch Meter - All Classes except Constr.				
36					
37	NT = No Tariff				

(Per 1,000 gallons)

Present Rate Proposed Rate

\$ 0.87 \$ 1.32

0 gallons to 5,000 gallons
 Over 5,000 gallons

Block

\$ 1.23
 \$ 1.83
 \$ 2.43

0 gallons to 3,000 gallons
 3,001 gallons to 9,000 gallons
 over 9,000 gallons

Residential

\$ 1.83
 \$ 2.43

0 gallons to 10,000 gallons
 over 10,000 gallons

Commercial, Irr.

\$ 1.83
 \$ 2.43

0 gallons to 20,000 gallons
 over 20,000 gallons

Construction

\$ 1.83
 \$ 2.43

0 gallons to 30,000 gallons
 over 30,000 gallons

Construction

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Present and Proposed Rates

Exhibit
 Rejoinder Schedule H-3
 Page 2
 Witness: Bourassa

Line No.	Commodity Rates (Residential, Commercial, Industrial)	Block	(Per 1,000 gallons)	
			Present Rate	Proposed Rate
1				
2				
3				
4				
5	2 Inch Meter - All Classes except Constr.	0 gallons to 50,000 gallons	\$ N/A	\$ 1.83
6		over 50,000 gallons	\$ N/A	\$ 2.43
7				
8	3 Inch Meter - All Classes except Constr.	0 gallons to 120,000 gallons	\$ N/A	\$ 1.83
9		over 120,000 gallons	\$ N/A	\$ 2.43
10				
11	4 Inch Meter - All Classes except Constr.	0 gallons to 180,000 gallons	\$ N/A	\$ 1.83
12		over 180,000 gallons	\$ N/A	\$ 2.43
13				
14	6 Inch Meter - All Classes except Constr.	0 gallons to 360,000 gallons	\$ N/A	\$ 1.83
15		over 360,000 gallons	\$ N/A	\$ 2.43
16				
17	8 Inch Meter - All Classes except Constr.	0 gallons to 670,000 gallons	\$ N/A	\$ 1.83
18		over 670,000 gallons	\$ N/A	\$ 2.43
19				
20	10 Inch Meter - All Classes except Constr.	0 gallons to 940,000 gallons	\$ N/A	\$ 1.83
21		over 940,000 gallons	\$ N/A	\$ 2.43
22				
23	12 Inch Meter - All Classes except Constr.	0 gallons to 1,660,000 gallons	\$ N/A	\$ 1.83
24		over 1,660,000 gallons	\$ N/A	\$ 2.43
25				
26				
27	Bulk Water	All Gallons	\$ N/A	\$ 1.48
28				
29				
30	Construction- Hydrants	All gallons	\$ 2.50	\$ 2.43
31				(0.070)
32				-2.80%
33				
34				
35				
36				
37				
38				

Litchfield Park Service Company - Water Division
Changes in Representative Rate Schedules
Test Year Ended September 30, 2008

Exhibit
Rejoinder Schedule H-3
Page 3
Witness: Bourassa

Line No.	Other Service Charges	Present Rates	Proposed Rates
1	Establishment (Regular Hours) per Rule R14-2-403D (a)	\$ 20.00	\$ 20.00
2	Establishment (After Hours) per Rule R14-2-403D (a)	\$ 40.00	\$ 40.00
3	Re-Establishment of Service per Rule R14-2-403D (a)	(b)	(b)
4	Reconnection (Regular Hours) per Rule R14-2-403D (a)	\$ 50.00	\$ 50.00
5	Reconnection (After Hours) per Rule R14-2-403D (a)	\$ 65.00	\$ 65.00
6	Meter Test (if correct) per Rule R14-2-408F (c)	\$ 25.00	\$ 25.00
7	Meter Reread per Rule R14-2-408C (if correct)	\$ 5.00	\$ 5.00
8	NSF Check per Rule R14-2-409F (a)	\$ 20.00	\$ 20.00
9	Deferred Payment, Per Month	1.50%	1.50%
10	Late Charge	(d)	(d)
11	Service Calls - Per Hour/After Hours(e)	\$ 40.00	\$ 40.00
12	Deposit Requirements	(f)	(f)
13	Deposit Interest	3.50%	3.50%
14	Meter and Service lines	see H-3, page 4	
15	Main Extension Tariff	at Cost	at Cost
16			
17			
18			
19	(a) Service charges for customers taking both water and sewer service are not duplicative.		
20	(b) Minimum charge times number of full months off the system. per Rule R14-2-403(D).		
21	(c) \$25 plus cost of test		
22	(d) Greater of \$5.00 or 1.5% of unpaid balance.		
23	(e) No charge for service calls during normal working hours.		
24	(f) Per ACC Rules R14-2-403(B) <u>Residential</u> - two times the average bill.		
25	<u>Commercial</u> - two and one-half times the average bill.		
26			
27			
28	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
29	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
30	TAX. PER COMMISSION RULE 14-2-409D(5).		
31			
32			
33			
34			
35			

Litchfield Park Service Company - Water Division
 Test Year Ended September 30, 2008
 Meter and Service Line Charges

Exhibit
 Rejoinder Schedule H-3
 Page 4
 Witness: Bourassa

Line

No.

1

2 **Refundable Meter and Service Line Charges**

3

4

5

6

7

8

9 5/8 x 3/4 Inch

10 3/4 Inch

11 1 Inch

12 1 1/2 Inch

13 2 Inch

14 Over 2 Inch

15 2 Inch / Turbine

16 2 Inch / Compound

17 3 Inch / Turbine

18 3 Inch / Compound

19 4 Inch / Turbine

20 4 Inch / Compound

21 6 Inch / Turbine

22 6 Inch / Compound

23 8 Inch & Larger

24

25 Constuction Water

26

27 N/T = No Tariff

28

29

30

31

32

33

34

35

Present

Present

Service

Line

Charge

Meter

Install-

ation

Charge

Total

Present

Charge

Proposed

Service

Line

Charge

Proposed

Meter

Install-

ation

Charge

Total

Proposed

Charge

At Cost

NT

NT

NT

NT

NT

NT

NT

NT

NT

\$ 1,500

\$ 225.00 \$ 385.00 \$ 135.00 \$ 520.00

225.00 385.00 215.00 600.00

300.00 435.00 255.00 690.00

500.00 470.00 465.00 935.00

675.00

At Cost

630.00 965.00 1,595.00

630.00 1,690.00 2,320.00

805.00 1,470.00 2,275.00

845.00 2,265.00 3,110.00

1,170.00 2,350.00 3,520.00

1,230.00 3,245.00 4,475.00

1,730.00 4,545.00 6,275.00

1,770.00 6,280.00 8,050.00

At Cost At Cost At Cost

\$ 1,500

**BOURASSA REJOINER
WASTEWATER SCHEDULES
(Rate Base – Phase I)**

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008
Computation of Increase in Gross Revenue
Requirements As Adjusted

Exhibit
Rejoinder Schedule A-1
Page 1
Witness: Bourassa

Line
No.

1	Fair Value Rate Base	\$	28,222,289
2			
3	Adjusted Operating Income		150,724
4			
5	Current Rate of Return		0.53%
6			
7	Required Operating Income	\$	3,107,274
8			
9	Required Rate of Return on Fair Value Rate Base		11.01%
10			
11	Operating Income Deficiency	\$	2,956,550
12			
13	Gross Revenue Conversion Factor		1.6286
14			
15	Increase in Gross Revenue Revenue Requirement	\$	4,815,141
16			
17	Test Year Revenues	\$	6,356,374
18	Increase in Gross Revenue Revenue Requirement	\$	4,815,141
19	Proposed Revenue Requirement	\$	11,171,515
20	% Increase		75.75%
21			

Customer Classification	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Residential	\$ 4,647,120	\$ 8,267,432	\$ 3,620,312	77.90%
Residential HOA	266,016	473,254	207,238	77.90%
Multi-unit Housing	518,888	923,106	404,219	77.90%
Small Commercial	84,318	149,994	65,676	77.89%
Measured Service:				
Regular Domestic	256,547	456,136	199,590	77.80%
Rest., Motels, Grocery, Dry Cleaning	222,936	396,807	173,871	77.99%
Wigwam Resort	115,929	206,239	90,310	77.90%
School	76,320	135,773	59,453	77.90%
Effluent	92,268	92,268	-	0.00%
Subtotal before Rev. Annualization	\$ 6,280,340	\$ 11,101,009	\$ 4,820,668	76.76%
Revenue Annualization	\$ (27,512)	\$ (28,773)	\$ (1,262)	4.59%
Misc Revenues	99,755	99,755	-	0.00%
Reconciling Amount H-1 to C-1	3,791	(475)	(4,266)	-112.53%
Total of Water Revenues	\$ 6,356,375	\$ 11,171,515	\$ 4,815,141	75.75%

44 SUPPORTING SCHEDULES:

45 Rejoinder B-1
46 Rejoinder C-1
47 Rejoinder C-3
48 Rejoinder H-1
49

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Summary of Rate Base

Exhibit
Rejoinder Schedule B-1
Page 1
Witness: Bourassa

Line No.		Original Cost Rate base	Fair Value Rate Base
1			
2	Gross Utility Plant in Service	\$ 59,826,735	\$ 59,826,735
3	Less: Accumulated Depreciation	<u>7,902,675</u>	<u>7,902,675</u>
4			
5	Net Utility Plant in Service	\$ 51,924,060	\$ 51,924,060
6			
7	<u>Less:</u>		
8	Advances in Aid of		
9	Construction	6,989,559	6,989,559
10	Contributions in Aid of		
11	Construction	18,643,786	18,643,786
12	Accumulated Amortization of CIAC	(2,072,117)	(2,072,117)
13			
14	Customer Meter Deposits	0	0
15	Deferred Income Taxes & Credits	140,544	140,544
16		-	-
17			
18			
19	<u>Plus:</u>		
20	Unamortized Finance		
21	Charges	-	-
22	Deferred Finance Charges	-	-
23	Allowance for Working Capital	-	-
24			
25			
26	Total Rate Base	<u>\$ 28,222,289</u>	<u>\$ 28,222,289</u>
27			
28			
29			
30	<u>SUPPORTING SCHEDULES:</u>		
31	Rejoinder B-2		
32	Rejoinder B-5		
33			
34			
35			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rejoinder Schedule B-2
Page 1
Witness: Bourassa

Line No.		Actual at End of Test Year	Proforma Adjustments Amount	Adjusted at end of Test Year
1	Gross Utility			
2	Plant in Service	\$ 60,394,260	(567,525)	\$ 59,826,735
3				
4	Less:			
5	Accumulated			
6	Depreciation	8,475,991	(573,316)	7,902,675
7				
8				
9	Net Utility Plant			
10	in Service	\$ 51,918,269		\$ 51,924,060
11				
12	Less:			
13	Advances in Aid of			
14	Construction	7,006,208	(16,649)	6,989,559
15				
16	Contributions in Aid of			
17	Construction (CIAC)	18,737,132	(93,346)	18,643,786
18				
19	Accumulated Amortization of CIAC	(2,072,117)	-	(2,072,117)
20				
21	Customer Meter Deposits	68,685	(68,685)	0
22	Deferred Income Taxes	15,987	124,556	140,544
23				
24				
25	Plus:			
26	Unamortized Finance			
27	Charges	-	-	-
28	Deferred Finance Chgs	134,528	(134,528)	-
29	Allowance for Working Capital	-	-	-
30				
31	Total	<u>\$ 28,296,903</u>		<u>\$ 28,222,289</u>

SUPPORTING SCHEDULES:
Rejoinder B-2, page 2

RECAP SCHEDULES:
Rejoinder B-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments

Exhibit
Rejoinder Schedule B-2
Page 2
Witness: Bourassa

Line No.	Actual at End of Test Year	Proforma Adjustments						Adjusted at end of Test Year
		1	2	3	4	5	6	
			Accum. Depr.	DIT	AIAC/CIAC	Remove Security Deposit	Debt Issuance Costs	
1		Plant						
2	\$ 60,394,260	(567,525)						\$ 59,826,735
3								
4	Less:							
5	Accumulated Depreciation		(573,316)					7,902,675
6								
7								
8								
9	Net Utility Plant							
10	In Service	\$ 51,918,269	\$ 573,316	\$ -	\$ -	\$ -	\$ -	\$ 51,924,060
11								
12	Less:							
13	Advances in Aid of Construction	7,006,208			(16,649)			6,989,559
14								
15								
16	Contributions in Aid of Construction (CIAC)	18,737,132			(93,346)			18,643,786
17								
18								
19	Accumulated Amort of CIAC	(2,072,117)						(2,072,117)
20								
21	Customer Meter Deposits	68,685				(68,685)		0
22	Deferred Income Taxes	15,987		124,556				140,544
23								
24								
25	Plus:							
26	Unamortized Finance Charges	-						-
27								
28	Deferred Finance Chgs	134,528					(134,528)	-
29	Allowance for Working Capital	-						-
30								
31	Total	\$ 28,296,903	\$ (567,525)	\$ 573,316	\$ (124,556)	\$ 109,995	\$ 68,685	\$ 28,222,289

SUPPORTING SCHEDULES:
B-2, pages 3-6
E-1

RECAP SCHEDULES:
B-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1

Exhibit
Rejoinder Schedule B-2
Page 3
Witness: Bourassa

Line No.	Plant-in-Service	Acct. No.	Description	Adjusted Original Cost	A Plant Retirements	B Odor Control Unit	Adjustments C Capitalized Expenses	D Intentionally Left Blank	E Intentionally Left Blank	Rejoinder Adjusted Original Cost
1	Plant-in-Service									
2										
3										
4										
5		351	Organization	1,783,426						1,783,426
6		353	Land	19,319,421	(388,834)					18,934,312
7		354	Structures & Improvements	543,670			3,725			548,674
8		355	Power Generation	1,161,105			5,004			1,161,105
9		360	Collection Sewer Forced	23,113,391	(18,730)					23,094,661
10		361	Collection Sewers Gravity	-						-
11		362	Special Collecting Structures	-						-
12		363	Customer Services	-						-
13		364	Flow Measuring Devices	47,019						47,019
14		366	Reuse Services	3,789,468						3,789,468
15		367	Reuse Meters and Installation	52,331						52,331
16		370	Receiving Wells	860,393						860,393
17		371	Pumping Equipment	1,858,411	(103,992)		6,394			1,760,813
18		374	Reuse Distribution Reservoirs	62,825						62,825
19		375	Reuse Trans. and Dist. System	414,315		(38,250)				414,315
20		380	Treatment & Disposal Equip.	5,469,478						5,431,228
21		381	Plant Sewers	47,788						47,788
22		382	Outfall Sewer Lines	343,681	(43,421)					343,681
23		389	Other Sewer Plant & Equip.	644,609			10,579			611,767
24		390	Office Furniture & Equipment	198,772						198,772
25		390.1	Computers and Software	-						-
26		391	Transportation Equipment	26,078						26,078
27		392	Stores Equipment	8,968						8,968
28		393	Tools, Shop And Garage Equip	56,167						56,167
29		394	Laboratory Equip	173,948						173,948
30		396	Communication Equip	418,996						418,996
31		398	Other Tangible Plant	-						-
32				-						-
33				-						-
34				-						-
35			TOTALS	\$ 60,394,260	\$ (554,977)	\$ (38,250)	\$ 25,702	\$ -	\$ -	\$ 59,826,735
36										
37			Adjusted Plant-in-Service per Direct							\$ 60,394,260
38										
39			Increase (decrease) in Plant-in-Service							\$ (567,525)
40										
41			Adjustment to Plant-in-Service							\$ (567,525)
42										
43			SUPPORTING SCHEDULES							
44			Rejoinder B-2, pages 3.1-3.3							
45			Rejoinder B-2, pages 3.4-3.15							

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- A

Exhibit
Rejoinder Schedule B-2
Page 3.1
Witness: Bourassa

Line

No.

1	<u>Plant Retirements</u>	
2		
3	354 - Structures and Improvements	\$ (388,834)
4	361 - Collection Sewer - Gravity	(18,730)
5	371 - Pumping Equipment	(103,992)
6	389 - Other Plant and Miscellaneous Equipment	<u>(43,421)</u>
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (554,977)</u>
9		
10		
11	For related AIAC and CIAC see Rejoinder Schedule B-2, page 6	
12		
13		
14		
15		
16	See Staff Adjustment 1 Schedule JMM-VWW5 (from Exhibit MSJ Table G-1)	

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008

Original Cost Rate Base Proforma Adjustments

Adjustment Number 1- B

Exhibit

Rejoinder Schedule B-2

Page 3.2

Witness: Bourassa

Line

No.

1	<u>Transfer of Odor Control Unit to Black Mountain Sewer Company ("BMSC")</u>	
2		
3	Original Cost of Odor Control Unit	\$ (38,250)
4		
5		
6		
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (38,250)</u>
9		
10		
11		
12		
13		
14		
15		
16	See Staff Adjustment 2 Schedule JMM-VVV6	
17	(Actual cost is \$38,250 per updated documentation not \$38,625)	
18		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1- C

Exhibit
Rejoinder Schedule B-2
Page 3.3
Witness: Bourassa

Line

No.

1	<u>Capitalized Expenses</u>		
2			
3	354 - Structures and Improvements - Dean Fence and Gate (fence)	\$	3,725
4	355 - Power Generation Equipment - Loftin Equipment Co. (generator duct)		5,004
5	371 - Pumping Equipment - Precision Electric (install rebuilt pump)	\$	1,530
6	371 - Pumping Equipment - Precision Electric (new reinforced strainer baskets)		4,864
7	Total 371 - Pumping Equipment		6,394
8	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor site plant and pole mnt)	\$	1,450
9	389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor legal descr. & map)		550
10	389 - Other Plant and Misc. Equip. - Keogh Engineering (filter system repair)		8,054
11	389 - Other Plant and Misc. Equip. - Keogh Engineering (work on UV system)		525
12	Total 389 - Other Plant and Misc. Equip.		10,579
13			
14	Increase (Decrease) in Plant-in-Service	\$	25,702
15			
16			
17			
18			
19			
20	See testimony		
21			
22			

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
Rejorder Schedule B-2
Page 3.4

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Plant At 12/31/2000	2000 Accum. Depr.	2001 Plant Additions	2001 Plant Adjustments	2001 Adjusted Plant	2001 Plant Retirements	2001 Salvage A/D Only	2001 Plant Balance	2001 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	-	-	-	-	-	-	-	-	-
355	Power Generation	2.52%	5.00%	21,372	269	-	-	-	-	-	21,372	539
360	Collection Sewer Forced	2.52%	2.00%	555,955	33,704	-	-	-	-	-	555,955	14,010
361	Collection Sewers Gravity	2.52%	2.00%	5,446,466	716,003	-	1,508,523	1,508,523	-	-	6,954,989	156,258
362	Special Collecting Structures	2.52%	2.00%	1,508,523	-	-	(1,508,523)	(1,508,523)	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	11,020	417	-	-	-	-	-	11,020	278
366	Reuse Services	2.52%	2.00%	370,964	12,316	472,540	-	472,540	-	-	843,504	15,302
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	-	-	-	-
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	2.52%	12.50%	-	-	-	-	-	-	-	-	-
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	-	-	-	-	-	-	-	-	-
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	-	-	-	-
389	Other Sewer Plant & Equipment	2.52%	6.67%	5,508	1,569	-	-	-	-	-	5,508	139
390	Office Furniture & Equipment	2.52%	20.00%	29,620	2,495	1,769	-	1,769	-	-	31,390	769
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	4.00%	225	9	-	-	-	-	-	225	6
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	-	-	-	-
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	-	-	-	-
394	Laboratory Equip	2.52%	10.00%	-	-	-	-	-	-	-	-	-
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	-	-	-	-
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	4,460,750	614,247	-	-	-	-	-	4,460,750	112,411
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

12,410,403	1,381,028	474,310	-	474,310	-	-	12,884,713	299,711
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(See page 3.14) (See page 3.15)

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.5

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2002 Plant Additions	Goodyear Trmt Plant 2002 Plant Adjustments	2002 Adjusted Plant Additions	2002 Plant Retirements	2002 Salvage/Adj. A/D Only	2002 Plant Balance	2002 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	8,426,565	-	8,426,565	-	-	8,426,565	109,019
355	Power Generation	2.52%	5.00%	198,964	-	198,964	-	-	220,336	3,295
360	Collection Sewer Forced	2.52%	2.00%	-	-	-	(332,823)	-	223,132	9,648
361	Collection Sewers Gravity	2.52%	2.00%	1,246,938	-	1,246,938	-	-	8,201,927	187,693
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	515	-	515	-	-	11,535	354
366	Reuse Services	2.52%	2.00%	2,558,799	-	2,558,799	-	-	3,402,302	52,577
367	Reuse Meters And Installation	2.52%	8.33%	9,573	-	9,573	-	-	9,573	144
370	Receiving Wells	2.52%	3.33%	854,000	-	854,000	-	-	854,000	11,049
371	Pumping Equipment	2.52%	12.50%	1,328,499	-	1,328,499	-	-	1,328,499	22,263
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	4,246,579	-	4,246,579	-	-	4,246,579	57,895
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	-	-
382	Outfall Sewer Lines	2.52%	3.33%	343,681	-	343,681	-	-	343,681	4,446
389	Other Sewer Plant & Equipment	2.52%	6.67%	6,500	-	6,500	-	-	12,008	251
390	Office Furniture & Equipment	2.52%	6.67%	62,625	-	62,625	-	-	94,014	1,797
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	-	-	-	-	-	-	-
392	Stores Equipment	2.52%	4.00%	8,807	-	8,807	-	-	225	9
393	Tools, Shop And Garage Equip	2.52%	5.00%	13,557	-	13,557	-	-	8,807	116
394	Laboratory Equip	2.52%	10.00%	77,786	-	77,786	-	-	13,557	185
396	Communication Equip	2.52%	10.00%	320,224	-	320,224	-	-	77,786	1,223
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	(4,460,750)	-	-	320,224	5,033
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	(726,658)
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

19,703,612	(4,460,750)	15,242,862	(332,823)	-	27,794,752	(259,660)
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Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2003 Plant Additions	2003 Plant Adjustments	2003 Adjusted Plant Additions	2003 Plant Retirements	2003 Salvage AND Only	2003 Plant Balance	2003 Deprec.
351		Organization	0.00%	0.00%	-	-	-	-	-	-	-
353		Land	0.00%	0.00%	16,292	-	1,742,400	-	-	1,742,400	-
354		Structures & Improvements	2.52%	3.33%	-	-	16,292	-	-	8,442,857	280,876
355		Power Generation	2.52%	5.00%	-	-	-	-	-	220,336	11,017
360		Collection Sewer Forced	2.52%	2.00%	-	-	-	-	-	223,132	4,463
361		Collection Sewers Gravity	2.52%	2.00%	35,691	-	35,691	-	-	8,237,618	164,395
362		Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363		Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364		Flow Measuring Devices	2.52%	10.00%	-	-	-	-	-	-	-
366		Reuse Services	2.52%	2.00%	35,028	-	35,028	-	-	11,535	1,153
367		Reuse Meters And Installation	2.52%	8.33%	3,806	-	3,806	-	-	3,437,330	68,396
370		Receiving Wells	2.52%	3.33%	1,200	-	1,200	-	-	13,378	956
371		Pumping Equipment	2.52%	12.50%	4,702	-	4,702	-	-	855,200	28,458
374		Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	1,333,201	166,356
375		Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380		Treatment & Disposal Equipment	2.52%	5.00%	-	-	-	-	-	4,246,579	212,329
381		Plant Sewers	2.52%	5.00%	23,117	-	23,117	-	-	23,117	578
382		Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389		Other Sewer Plant & Equipment	2.52%	6.67%	1,059	-	1,059	-	-	13,067	836
390		Office Furniture & Equipment	2.52%	20.00%	13,032	-	13,032	-	-	107,046	6,705
390.1		Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391		Transportation Equipment	2.52%	4.00%	-	-	-	-	-	225	45
392		Stores Equipment	2.52%	5.00%	-	-	-	-	-	8,807	352
393		Tools, Shop And Garage Equip	2.52%	10.00%	5,189	-	5,189	-	-	18,746	808
394		Laboratory Equip	2.52%	10.00%	2,281	-	2,281	-	-	80,067	7,893
396		Communication Equip	2.52%	4.00%	2,875	-	2,875	-	-	323,100	32,166
398		Other Tangible Plant (Goodyear Capacity)	2.52%	0.00%	-	-	-	-	-	-	-
		Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-
Plant Held for Future Use											
TOTAL WATER PLANT					144,272	1,742,400	1,886,672	-	-	29,681,424	999,228

Leitchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2004 Plant Additions	2004 Plant Adjustments ¹	2004 Adjusted Plant Additions	2004 Plant Retirements	2004 Salvage A/D Only	2004 Plant Balance	2004 Deprec.
351	Organization	0.00%	0.00%	41,026	-	41,026	-	-	1,783,426	-
353	Land	0.00%	0.00%	634,988	-	634,988	-	-	9,046,041	-
354	Structures & Improvements	2.52%	3.33%	85,152	(31,804)	85,152	-	-	305,488	291,190
355	Power Generation	2.52%	5.00%	40,504	-	40,504	-	-	252,277	13,146
360	Collection Sewer Forced	2.52%	2.00%	5,765,446	(11,360)	5,765,446	-	-	13,951,952	4,754
361	Collection Sewers Gravity	2.52%	2.00%	-	(51,113)	-	-	-	-	221,896
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	10,653	-	10,653	-	-	22,188	1,686
366	Reuse Services	2.52%	2.00%	17,461	-	17,461	-	-	3,454,791	68,921
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	855,200	28,478
371	Pumping Equipment	2.52%	12.50%	31,621	(604)	31,017	-	-	1,364,219	168,589
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	53,622	(1,063)	52,559	-	-	4,299,138	213,643
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389	Other Sewer Plant & Equipment	2.52%	6.67%	97,241	(11,334)	85,907	-	-	98,974	3,737
390	Office Furniture & Equipment	2.52%	6.67%	19,825	-	19,825	-	-	126,871	7,801
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	-	-	-	-	-	225	45
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	8,807	352
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	18,746	937
394	Laboratory Equip	2.52%	10.00%	4,092	-	4,092	-	-	84,159	8,211
396	Communication Equip	2.52%	10.00%	2,312	-	2,312	-	-	325,412	32,426
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

6,803,943	(107,278)	6,696,665	-	36,378,089	1,079,527
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¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2005 Plant Additions	2005 Plant Adjustments ¹	2005 Adjusted Plant Additions	2005 Plant Retirements	2005 Salvage A/D Only	2005 Plant Balance	2005 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	1,783,426	-
354	Structures & Improvements	2.52%	3.33%	392,473	(14,187)	378,286	-	-	9,424,327	307,532
355	Power Generation	2.52%	5.00%	-	-	-	-	-	305,488	15,274
360	Collection Sewer Forced	2.52%	2.00%	80,546	(7,843)	72,702	-	-	324,979	5,773
361	Collection Sewers Gravity	2.52%	2.00%	4,818,977	(135,919)	4,683,058	-	-	18,635,010	325,870
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	17,896	(341)	17,555	-	-	39,743	3,097
366	Reuse Services	2.52%	2.00%	3,187	-	3,187	-	-	3,457,977	89,128
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	4,917	-	4,917	-	-	860,117	28,560
371	Pumping Equipment	2.52%	12.50%	112,737	(11,712)	101,025	-	-	1,485,243	176,841
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	222,515	(872)	221,642	-	-	4,520,781	220,498
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389	Other Sewer Plant & Equipment	2.52%	6.67%	207,463	(1,715)	205,748	-	-	304,722	13,463
390	Office Furniture & Equipment	2.52%	6.67%	10,431	-	10,431	-	-	137,301	8,810
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	9,314	-	9,314	-	-	9,540	976
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	8,807	352
393	Tools, Shop And Garage Equip	2.52%	5.00%	13,641	-	13,641	-	-	32,387	1,278
394	Laboratory Equip	2.52%	10.00%	-	-	-	-	-	84,159	8,416
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

5,894,095	(172,590)	5,721,506	-	42,099,595	1,232,124
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¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2006 Plant Additions	2006 Plant Adjustments ¹	2006 Adjusted Additions	2006 Plant Retirements	2006 Salvage A/D Only	2006 Plant Balance	2006 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	1,783,426	-
353	Land	0.00%	0.00%	-	-	-	-	-	11,008,480	-
354	Structures & Improvements	2.52%	3.33%	1,585,531	(1,378)	1,584,153	-	-	437,593	340,206
355	Power Generation	2.52%	5.00%	132,105	-	132,105	-	-	1,081,259	18,577
360	Collection Sewer Forced	2.52%	2.00%	756,548	(268)	756,280	-	-	19,125,681	14,062
361	Collection Sewers Gravity	2.52%	2.00%	569,086	(78,415)	490,670	-	-	-	377,607
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	4,961	-	4,961	-	-	44,704	4,222
366	Reuse Services	2.52%	2.00%	-	-	-	-	-	3,457,977	69,160
367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	860,117	28,642
371	Pumping Equipment	2.52%	12.50%	11,189	(568)	10,621	-	-	1,475,864	183,819
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	104,008	(4,522)	99,487	-	-	4,620,267	228,526
381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
389	Other Sewer Plant & Equipment	2.52%	6.67%	11,685	(443)	11,242	-	-	315,963	20,700
390	Office Furniture & Equipment	2.52%	6.67%	9,956	-	9,956	-	-	147,257	9,490
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	6,193	-	6,193	-	-	15,733	2,527
392	Stores Equipment	2.52%	4.00%	161	-	161	-	-	8,968	355
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	-	-	-	32,387	1,619
394	Laboratory Equip	2.52%	10.00%	5,277	-	5,277	-	-	89,436	8,680
396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

3,196,701	(85,595)	3,111,106	-	45,210,701	1,354,449
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¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account	No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	2007 Plant Additions	2007 Plant Adjustments ¹	2007 Adjusted Plant Additions	2007 Plant Retirements	2007 Salvage A/D Only	2007 Plant Balance	2007 Deprec.
	351	Organization	0.00%	0.00%	-	-	-	-	-	-	-
	353	Land	0.00%	0.00%	-	-	-	-	-	1,783,426	-
	354	Structures & Improvements	2.52%	3.33%	23,919	(57,739)	(33,821)	-	-	10,974,659	366,019
	355	Power Generation	2.52%	5.00%	105,882	-	105,882	-	-	543,475	24,527
	360	Collection Sewer Forced	2.52%	2.00%	10,434	-	10,434	-	-	1,091,693	21,730
	361	Collection Sewers Gravity	2.52%	2.00%	1,229,391	(102,212)	1,127,179	-	-	20,252,859	383,785
	362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-
	363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-
	364	Flow Measuring Devices	2.52%	10.00%	2,315	-	2,315	-	-	47,019	4,586
	366	Reuse Services	2.52%	2.00%	210,273	(665)	209,609	-	-	3,667,586	71,256
	367	Reuse Meters And Installation	2.52%	8.33%	-	-	-	-	-	13,378	1,114
	370	Receiving Wells	2.52%	3.33%	277	-	277	-	-	860,393	28,646
	371	Pumping Equipment	2.52%	12.50%	55,130	(70)	55,060	-	-	1,530,924	187,924
	374	Reuse Distribution Reservoirs	2.52%	2.50%	62,625	-	62,625	-	-	62,625	783
	375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-	-
	380	Treatment & Disposal Equipment	2.52%	5.00%	547,598	(11,615)	535,983	-	-	5,156,250	244,413
	381	Plant Sewers	2.52%	5.00%	-	-	-	-	-	23,117	1,156
	382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	343,681	11,445
	389	Other Sewer Plant & Equipment	2.52%	6.67%	83,941	(1,357)	82,584	-	-	398,547	23,829
	390	Office Furniture & Equipment	2.52%	6.67%	37,215	-	37,215	-	-	184,473	11,063
	390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-
	391	Transportation Equipment	2.52%	20.00%	3,460	-	3,460	-	-	19,193	3,493
	392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	8,968	359
	393	Tools, Shop And Garage Equip	2.52%	5.00%	3,053	-	3,053	-	-	35,440	1,696
	394	Laboratory Equip	2.52%	10.00%	83,968	-	83,968	-	-	173,405	13,142
	396	Communication Equip	2.52%	10.00%	-	-	-	-	-	325,412	32,541
	398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-
		Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-
		Rounding			-	-	-	-	-	-	-

Plant Held for Future Use											
TOTAL WATER PLANT	2,459,482	(173,659)	2,285,823	-	-	-	-	-	-	47,496,524	1,443,506

¹ Affiliate Profit

Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

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Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Jan. to Sep. 2008 Additions	Jan. to Sep. 2008 Adjustments ¹	Capitalized Expenses	Jan. to Sep. 2008 Adjusted Plant	Staff Plant Retirements	Transferred Odor Control Unit	A/D Lift Station Decommission	Transferred Odor Control Unit	Jan. to Sep. 2008 Plant Balance	Jan. to Sep. 2008 Deprec.
351	Organization	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	8,402,971	(58,210)	3,725	8,348,487	(388,834)	-	(8,003)	-	1,783,426	-
355	Power Generation	2.52%	5.00%	195	-	5,004	5,199	-	-	-	-	18,934,312	378,344
360	Collection Sewer Forced	2.52%	2.00%	69,566	(154)	-	69,412	-	-	-	-	548,674	20,478
361	Collection Sewers Gravity	2.52%	2.00%	2,897,310	(36,779)	-	2,860,532	(18,730)	-	-	-	1,161,105	16,896
362	Special Collecting Structures	2.52%	2.00%	-	-	-	-	-	-	-	-	23,094,661	325,247
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	-	-	-	-	-	-	-	-	-	-
366	Reuse Services	2.52%	2.00%	122,768	-	-	121,881	-	-	-	-	47,019	3,526
367	Reuse Meters And Installation	2.52%	8.33%	38,953	(886)	-	38,953	-	-	-	-	3,789,468	55,928
370	Receiving Wells	2.52%	3.33%	-	-	-	-	-	-	-	-	52,331	2,053
371	Pumping Equipment	2.52%	12.50%	328,661	(1,174)	6,394	333,881	(103,992)	-	-	-	860,393	21,488
374	Reuse Distribution Reservoirs	2.52%	2.50%	200	-	-	200	-	-	-	-	1,760,813	159,175
375	Reuse Trans. and Dist. System	2.52%	2.50%	414,315	-	-	414,315	-	-	-	-	62,825	1,176
380	Treatment & Disposal Equipment	2.52%	5.00%	313,338	(111)	-	313,227	-	-	-	-	414,315	3,884
381	Plant Sewers	2.52%	5.00%	24,893	(222)	-	24,671	-	(38,250)	-	(11,040)	5,431,228	199,232
382	Outfall Sewer Lines	2.52%	3.33%	-	-	-	-	-	-	-	-	47,788	1,329
389	Other Sewer Plant & Equipment	2.52%	6.67%	260,567	(14,506)	10,579	256,641	(43,421)	-	-	-	343,681	8,583
390	Office Furniture & Equipment	2.52%	6.67%	14,299	-	-	14,299	-	-	-	-	611,767	26,357
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-	-	-	198,772	9,586
391	Transportation Equipment	2.52%	20.00%	6,885	-	-	6,885	-	-	-	-	-	-
392	Stores Equipment	2.52%	4.00%	-	-	-	-	-	-	-	-	26,078	3,395
393	Tools, Shop And Garage Equip	2.52%	5.00%	20,727	-	-	20,727	-	-	-	-	8,968	269
394	Laboratory Equip	2.52%	10.00%	544	-	-	544	-	-	-	-	56,167	1,718
396	Communication Equip	2.52%	10.00%	93,585	-	-	93,585	-	-	-	-	173,948	13,026
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-	-	-	-	-	-	418,996	27,915
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

13,009,777	(112,041)	25,702	12,923,438	(554,977)	(38,250)	(8,003)	(11,040)	59,826,735	1,279,606
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¹ Affiliate Profit

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account					
				2000					
				2000	2001	2002	2003	2004	2005
351	Organization	0.00%	0.00%	-	-	-	-	-	-
353	Land	0.00%	0.00%	-	-	-	-	-	-
354	Structures & Improvements	2.52%	3.33%	-	-	-	-	-	-
355	Power Generation	2.52%	5.00%	269	808	109,019	389,895	681,085	988,616
360	Collection Sewer Forced	2.52%	2.00%	33,704	47,714	4,103	15,120	28,266	43,540
361	Collection Sewers Gravity	2.52%	2.00%	716,003	872,262	(275,462)	(270,999)	(266,245)	(260,473)
362	Special Collecting Structures	2.52%	2.00%	-	-	1,059,955	1,224,350	1,446,246	1,772,116
363	Customer Services	2.52%	2.00%	-	-	-	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	417	694	1,049	2,202	3,888	6,985
366	Reuse Services	2.52%	2.00%	12,316	27,618	80,195	148,592	217,513	286,641
367	Reuse Meters And Installation	2.52%	8.33%	-	-	144	1,100	2,214	3,329
370	Receiving Wells	2.52%	3.33%	-	-	11,049	39,507	67,985	96,545
371	Pumping Equipment	2.52%	12.50%	-	-	22,263	188,620	357,208	534,050
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	-	-	-	-	-
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	-	-	-	-
380	Treatment & Disposal Equipment	2.52%	5.00%	-	-	57,895	270,224	483,867	704,365
381	Plant Sewers	2.52%	5.00%	-	-	-	578	1,734	2,890
382	Outfall Sewer Lines	2.52%	3.33%	-	-	4,446	15,891	27,336	38,780
389	Other Sewer Plant & Equipment	2.52%	6.67%	1,569	1,708	1,959	2,795	6,532	19,995
390	Office Furniture & Equipment	2.52%	6.67%	2,495	3,263	5,060	11,766	19,567	28,377
390.1	Computers and Software	2.52%	20.00%	-	-	-	-	-	-
391	Transportation Equipment	2.52%	20.00%	9	14	23	68	113	1,090
392	Stores Equipment	2.52%	4.00%	-	-	116	469	821	1,173
393	Tools, Shop And Garage Equip	2.52%	5.00%	-	-	185	992	1,930	3,208
394	Laboratory Equip	2.52%	10.00%	-	-	1,223	9,115	17,326	25,742
396	Communication Equip	2.52%	10.00%	-	-	5,033	37,199	69,625	102,166
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	614,247	726,658	-	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-	-	-	-
	Rounding			-	-	-	-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

1,381,028	1,680,739	1,088,255	2,087,483	3,167,010	4,399,134
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Litchfield Park Service Company - Wastewater Division
Plant Additions and Retirements

Exhibit
Rejoinder Schedule B-2
Page 3.13

Account No.	Description	Deprec. Rate Before Nov-02	Deprec. Rate After Nov-02	Year End Accumulated Depreciation by Account		
				2006	2007	2008
351	Organization	0.00%	0.00%	-	-	-
353	Land	0.00%	0.00%	-	-	-
354	Structures & Improvements	2.52%	3.33%	1,328,823	1,694,842	1,676,349
355	Power Generation	2.52%	5.00%	62,117	86,644	107,121
360	Collection Sewer Forced	2.52%	2.00%	(246,410)	(224,681)	(207,785)
361	Collection Sewers Gravity	2.52%	2.00%	2,149,723	2,543,508	2,890,025
362	Special Collecting Structures	2.52%	2.00%	-	-	-
363	Customer Services	2.52%	2.00%	-	-	-
364	Flow Measuring Devices	2.52%	10.00%	11,207	15,793	19,320
366	Reuse Services	2.52%	2.00%	355,800	427,056	482,984
367	Reuse Meters And Installation	2.52%	8.33%	4,443	5,557	7,610
370	Receiving Wells	2.52%	3.33%	125,187	153,833	175,322
371	Pumping Equipment	2.52%	12.50%	717,869	905,793	960,976
374	Reuse Distribution Reservoirs	2.52%	2.50%	-	783	1,959
375	Reuse Trans. and Dist. System	2.52%	2.50%	-	-	3,884
380	Treatment & Disposal Equipment	2.52%	5.00%	932,891	1,177,304	1,365,496
381	Plant Sewers	2.52%	5.00%	4,045	5,201	6,531
382	Outfall Sewer Lines	2.52%	3.33%	50,225	61,669	70,253
389	Other Sewer Plant & Equipment	2.52%	6.67%	40,695	64,524	47,460
390	Office Furniture & Equipment	2.52%	6.67%	37,867	48,930	58,516
390.1	Computers and Software	2.52%	20.00%	-	-	-
391	Transportation Equipment	2.52%	20.00%	3,617	7,110	10,505
392	Stores Equipment	2.52%	4.00%	1,529	1,887	2,156
393	Tools Shop And Garage Equip	2.52%	5.00%	4,827	6,523	8,241
394	Laboratory Equip	2.52%	10.00%	34,422	47,564	60,590
396	Communication Equip	2.52%	10.00%	134,707	167,248	195,163
398	Other Tangible Plant (Goodyear Capacity)	2.52%	4.00%	-	-	-
	Plant Held for Future Use (Land)	0.00%	0.00%	-	-	-
	Rounding			-	-	-

Plant Held for Future Use
TOTAL WATER PLANT

5,753,584 7,197,090 7,902,675

Litchfield Park Service Company - Wastewater Division
Plant Reconciliation to Prior Rate Case

Exhibit
Rejoinder Schedule B-2
Page 3.14

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	Land Trmnt Plant	CIAC Plant	CIAC Plant	CWIP PIS for 2000	CWIP PIS for 2000	Prior Case Adjusted Plant	Land Trmnt Plant	Reclass/ Rounding	Initial Balance
1	353	Land	-	-	-	-	-	-	-	-	-	1,230,050
2	354	Structures & Improvements	-	-	-	-	-	-	-	-	-	-
3	355	Power Generation	21,372	-	-	-	-	-	21,372	-	-	21,372
4	360	Collection Sewer Forced	555,955	-	-	-	-	-	555,955	-	-	555,955
5	361	Collection Sewers Gravity	3,654,748	-	-	-	-	-	6,954,989	-	-	5,446,466
6	362	Special Collecting Structures	-	-	782,105	1,288,086	563,237	666,813	-	-	(1,508,523)	5,446,466
7	363	Customer Services	-	-	-	-	-	-	-	-	1,508,523	1,508,523
8	364	Flow Measuring Devices	11,020	-	-	-	-	-	-	-	-	-
9	366	Reuse Services	370,964	-	-	-	-	-	11,020	11,020	-	11,020
10	367	Reuse Meters And Installation	-	-	-	-	-	-	370,964	370,964	-	370,964
11	370	Receiving Wells	-	-	-	-	-	-	-	-	-	-
12	371	Pumping Equipment	-	-	-	-	-	-	-	-	-	-
13	374	Reuse Distribution Reservoirs	-	-	-	-	-	-	-	-	-	-
14	375	Reuse Trans. and Dist. System	-	-	-	-	-	-	-	-	-	-
15	380	Treatment & Disposal Equipment	-	-	-	-	-	-	-	-	-	-
16	381	Plant Sewers	-	-	-	-	-	-	-	-	-	-
17	382	Outfall Sewer Lines	-	-	-	-	-	-	-	-	-	-
18	389	Other Sewer Plant & Equipment	5,508	-	-	-	-	-	5,508	-	-	5,508
19	390	Office Furniture & Equipment	29,620	-	-	-	-	-	29,620	-	-	29,620
20	390.1	Computers and Software	-	-	-	-	-	-	-	-	-	-
21	391	Transportation Equipment	225	-	-	-	-	-	225	-	-	225
22	392	Stores Equipment	-	-	-	-	-	-	-	-	-	-
23	393	Tools, Shop And Garage Equip	-	-	-	-	-	-	-	-	-	-
24	394	Laboratory Equip	-	-	-	-	-	-	-	-	-	-
25	396	Communication Equip	-	-	-	-	-	-	-	-	-	-
26	398	Other Tangible Plant (Goodyear Capacity)	4,460,750	-	-	-	-	-	-	-	-	-
27		Plant Held for Future Use (Land)	1,742,400	(1,742,400)	-	-	-	-	4,460,750	-	-	4,460,750
28		Rounding	-	-	-	-	-	-	-	-	(2)	-
29		TOTAL	10,852,562	(1,742,400)	782,105	1,288,086	563,237	666,813	12,410,405	-	-	12,410,403

Litchfield Park Service Company - Wastewater Division
A/D Reconciliation to Prior Rate Case

Exhibit
Rejoinder Schedule B-2
Page 3.15

Line No.	Account No.	Description	Balance Per Company Per 2000 Filing Before Adj.	Company Goodyear Capacity	Computed 1996-2000 Depr Adj.	Intentionally Left Blank	Prior Case Adjusted A/D	Intentionally Left Blank	Initial Balance
1	353	Land	-	-	-	-	-	-	-
2	354	Structures & Improvements	-	-	-	-	-	-	-
3	355	Power Generation	1,360	-	(1,091)	-	-	-	-
4	356	Collection Sewer Forced	35,377	-	(1,674)	-	269	-	269
5	360	Collection Sewers Gravity	232,565	-	483,438	-	33,704	-	33,704
6	361	Special Collecting Structures	-	-	-	-	716,003	-	716,003
7	362	Customer Services	-	-	-	-	-	-	-
8	363	Flow Measuring Devices	701	-	(285)	-	417	-	417
9	366	Reuse Services	23,606	-	(11,290)	-	12,316	-	12,316
10	367	Reuse Meters And Installation	-	-	-	-	-	-	-
11	370	Receiving Wells	-	-	-	-	-	-	-
12	371	Pumping Equipment	-	-	-	-	-	-	-
13	374	Reuse Distribution Reservoirs	-	-	-	-	-	-	-
14	375	Reuse Transmission And Distribution System	-	-	-	-	-	-	-
15	380	Treatment & Disposal Equipment**	-	-	-	-	-	-	-
16	381	Plant Sewers	-	-	-	-	-	-	-
17	382	Outfall Sewer Lines	-	-	-	-	-	-	-
18	389	Other Sewer Plant & Equipment	350	-	1,219	-	-	-	-
19	390	Office Furniture & Equipment	1,885	-	610	-	1,569	-	1,569
20	390.1	Computers and Software	-	-	-	-	2,495	-	2,495
21	391	Transportation Equipment	14	-	(6)	-	-	-	-
22	392	Stores Equipment	-	-	-	-	9	-	9
23	393	Tools, Shop And Garage Equip	-	-	-	-	-	-	-
24	394	Laboratory Equip	-	-	-	-	-	-	-
25	396	Communication Equip	-	-	-	-	-	-	-
26	398	Other Tangible Plant	283,854	-	330,393	-	614,247	-	614,247
27									
28									
29									
30									
31									
32									
33									
34									
		TOTAL	579,713	-	801,315	-	1,381,028	-	1,381,028

Litchfield Park Service Company - Wastewater Division
 Test Year Ended September 30, 2008
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2

Exhibit
 Rejoinder Schedule B-2
 Page 4
 Witness: Bourassa

Line No.	Accumulated Depreciation	A	B	C	D	E	F
		Per Books Accum. Depr.	Plant Retirements	Lift Station Decommission Adjustment	A/D Capitalized Expenses		Difference to Computed Balance
	Acct. No. Description						Rejoinder Adjusted Accum. Depr.
1	351 Organization	-	-	-	-	-	-
2	353 Land	-	-	-	-	-	-
3	354 Structures & Improvements	2,073,139	(388,834)	(8,003)	47	-	1,676,349
4	355 Power Generation	107,028	-	-	94	-	107,121
5	360 Collection Sewer Forced	(207,785)	-	-	0	-	(207,785)
6	361 Collection Sewers Gravity	2,868,755	(18,730)	-	-	-	2,850,025
7	362 Special Collecting Structures	-	-	-	-	-	-
8	363 Customer Services	-	-	-	-	-	-
9	364 Flow Measuring Devices	19,320	-	-	-	-	-
10	366 Reuse Services	482,984	-	-	-	-	19,320
11	367 Reuse Meters and Installation	7,610	-	-	-	-	482,984
12	370 Receiving Wells	175,322	-	-	-	-	7,610
13	371 Pumping Equipment	1,064,668	(103,992)	-	300	-	175,322
14	374 Reuse Distribution Reservoirs	1,959	-	-	-	-	960,976
15	375 Reuse Trans. and Dist. System	3,884	-	-	-	-	1,959
16	380 Treatment & Disposal Equip.	1,376,536	-	-	-	-	3,884
17	381 Plant Sewers	6,531	(11,040)	-	(0)	-	1,365,496
18	382 Outfall Sewer Lines	70,253	-	-	-	-	6,531
19	389 Other Sewer Plant & Equip.	90,616	(43,421)	-	265	-	70,253
20	390 Office Furniture & Equipment	58,516	-	-	-	-	47,460
21	390.1 Computers and Software	-	-	-	-	-	58,516
22	391 Transportation Equipment	10,505	-	-	-	-	-
23	392 Stores Equipment	2,156	-	-	-	-	10,505
24	393 Tools, Shop And Garage Equip	8,241	-	-	-	-	2,156
25	394 Laboratory Equip	60,590	-	-	-	-	8,241
26	396 Communication Equip	195,163	-	-	-	-	60,590
27	398 Other Tangible Plant	-	-	-	-	-	195,163
28	TOTALS	\$ 8,475,991	\$ (554,977)	\$ (8,003)	\$ 705	\$ -	\$ 7,902,675
29	Adjusted Accumulated Depreciation per Direct						\$ 8,475,991
30	Increase (decrease) in Plant-in-Service						\$ (573,316)
31	Adjustment to Plant-in-Service						\$ (573,316)
32	SUPPORTING SCHEDULES						
33	Rejoinder B-2, pages 3.4 to 3.15						
34	Rejoinder B-2, page 4.1 to 4.4						

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - A

Exhibit
Rejoinder Schedule B-2
Page 4.1
Witness: Bourassa

Line

No.

1	<u>A/D Plant Retirements</u>	
2		
3	354 - Structures and Improvements	\$ (388,834)
4	361 - Collection Sewer - Gravity	(18,730)
5	371 - Pumping Equipment	(103,992)
6	389 - Other Plant and Miscellaneous Equipment	<u>(43,421)</u>
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (554,977)</u>
9		
10		
11		
12		
13		
14	<u>SUPPORTING SCHEDULES</u>	
15	Rejoinder B-2, page 3.1	
16		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - B

Exhibit
Rejoinder Schedule B-2
Page 4.2
Witness: Bourassa

Line
No.

1 Computation of A/D for transfered Odor Control Unit to Black Mountain Sewer Company ("BMSC")

2							
3	Cost	\$ 38,250	(from B-2, page 3.2)				
4							
5				Number of		Accumulated	
6	Year	Rate	Months	Percent	Half Year	Depreciation	
7	2002	*	2.52%	11	91.67%	50%	441.79
8	2002		5%	1	8.33%	50%	79.69
9	2003		5%	12	100%	100%	1,912.50
10	2004		5%	12	100%	100%	1,912.50
11	2005		5%	12	100%	100%	1,912.50
12	2006		5%	12	100%	100%	1,912.50
13	2007		5%	12	100%	100%	1,912.50
14	2008		5%	6	50%	100%	956.25
15							
16	Total						<u>\$ 11,040.23</u>

17

18 *The depreciation rate before November 2002 was 2.52% and after was 5%

19

20 Adjustment to Accumulated Depreciation \$ (11,040)

21

22

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - C

Exhibit
Rejoinder Schedule B-2
Page 4.3
Witness: Bourassa

Line
No.

1	<u>Decommissioning Costs of Lift Station Requirement</u>	
2		
3	354 - Structures and Improvements - Yahweh Contracting LLC (Lift station removal/retirement)	\$ (8,003)
4		
5		
6		
7		
8	Increase (Decrease) in Plant-in-Service	<u>\$ (8,003)</u>
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20	See testimony	
21		
22		

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008

Original Cost Rate Base Proforma Adjustments

Adjustment Number 2 - D

Exhibit

Rejoinder Schedule B-2

Page 4.4

Witness: Bourassa

Line

No.

1 A/D on Capitalized Plant

2

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<u>Acct.</u>	<u>Description</u>	<u>Depr.</u> <u>Rate</u>	<u>Original</u> <u>Cost</u>	<u>Yr</u> <u>Factor</u>	<u>Depreciation</u>
354	Structures & Improvements	3.33%	\$ 3,725	0.375	\$ 47
355	Power Generation	5.00%	5,004	0.375	94
371	Pumping Equipment	12.50%	6,394	0.375	300
389	Other Sewer Plant & Equip.	6.67%	10,579	0.375	265
Increase (Decrease) in Plant-in-Service					<u>\$ 705</u>

SUPPORTING SCHEDULE

Rejoinder B-2, page 3.3

See testimony

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Original Cost Rate Base Proforma Adjustments
Adjustment 3

Exhibit
Rejoinder Schedule B-2
Page 5
Witness: Bourassa

Line
No.

Deferred Income Tax as of September 30, 2008 (Water and Wastewater Divisions)

	Adjusted Book Value ¹	Tax Value ³	Probability of Realization of Future Tax Benefit	Deductible TD (Taxable TD) Expected to be Realized	Tax Rate	Future Tax Asset Current	Future Tax Asset Non Current	Future Tax Liability Current	Future Tax Liability Non Current
6 Plant-in-Service	\$ 133,532,393								
7 Accum. Deprec.	(16,929,695)								
8 CIAC	(18,807,142)								
9 Fixed Assets	\$ 97,795,556	\$ 57,779,077	100.0%	\$ (40,016,479)	38.6%				\$ (15,446,361)
10 AIAC	\$ (29,326,533)	-	100.0%	\$ 29,326,533	38.6%	\$ 11,320,042			
11 Tax Benefits from bonus depr.			100.0%	\$ 9,838,658 ⁵	38.6%	\$ 3,797,722			
						\$ -	\$ 15,117,764	\$ -	\$ (15,446,361)

Net Asset (Liability)

\$ (328,597)

Wastewater Division allocation factor

0.42771

Allocated DIT Asset (Liability)

\$ (140,544)

DIT Asset (Liability) per Direct

\$ (15,987)

Adjustment to DIT

\$ 124,556

⁴ Computation of Net Tax Value at September 30, 2008 (Water and Wastewater)
Based on 2008 Tax Depreciation report (December 31, 2008)

27 Unadjusted Cost per 2008 Tax Depr. Report	\$ 71,524,622	
28 Reconciling Items not on tax report:		
29 AIAC (post test year AIAC netted against 2008 tax)	5,798,609	
30 CIAC (post test year CIAC netted against 2008 tax)	1,091,376	
31 Land costs not on tax, on books	2,012,629	
32 Capitalized Expenses not on tax, on books	45,691	
33 Organizational costs not on tax, on books	21,000	
34 Prior Year Retired Plant, on books, not on tax	(340,273)	
35 Plant Adds October to December on tax, not on books as of Sept. 2008	(128,422)	
36 Odor control unit removed from books, not removed from tax	(38,250)	
37 Accrual entry not on tax, on books	239,603	
38 AIAC timing difference	137,370	
39 CIAC timing difference	(244,958)	
40 2003 Plant not on tax, on books	1,277,167	
41 Unreconciled difference	381,462	
42 Net Unadjusted Cost tax Basis	\$ 81,777,626	
43		
44 Proposed Rate Case Retirements	(633,856)	
45 Proposed retirements A/D at tax rates	562,331	
46 Net Reduction in tax basis related to retirements	\$ (71,525)	
47		
48 Affiliate Profit removed	(463,401)	
49 Affiliate A/D at tax rates	67,055	
50 Net Reduction in tax basis related to affiliate profit	\$ (396,345)	
51		
52 Basis Reduction 2007 and Prior (from 2007 Tax Depr. Report)	(2,849,349)	
53 Accumulated Depreciation 2007 and prior (2007 Tax Depr Report)	(8,564,437)	
54		
55 <u>Bonus Depreciation Computation Jan. to Sept. 2008</u>		
56 Bonus Depr. for 12 months of 2008 per Tax Depr. Report	\$ 14,407,232	
57 Less: 2008 Bonus Depr for plant added after September 2008	(64,211)	
58 Net 12 months of Bonus Depr for plant added from Jan. to Sept. 2008	\$ 14,343,021	
59 Factor (9 months of 2008 or 9/12 or .75)	0.75	
60 Bonus Depreciation for 9 months of 2008	(10,757,266)	
61		
62 <u>2008 Depreciation Computation Jan. to Sept. 2008</u>		
63 2008 Tax Depreciation (12 Months) per Tax Depr. Report	\$ 1,817,974	
64 Less: 2008 depr. for plant added after September 2008	(5,137)	
65 Net 12 months of depr. for plant added Jan. to Sept. 2008	\$ 1,812,837	
66 Factor (9 months of 2008 or 9/12 or .75)	0.75	
67 Tax Depreciation for 9 months of 2008	(1,359,628)	
68		
69		
70 Net tax value of plant-in-service at September 30, 2008	\$ 57,779,077	
71		
72		

⁵ Tax Benefits from bonus depreciation

75 Net Income before tax	\$ 89,674	(from E-2 for both Water and Wastewater)
76		
77 Add: Book Depreciation	2,553,660	(from E-2 for both Water and Wastewater)
78		

[illegible]

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008

Computation of Working Capital

Exhibit

Rejoinder Schedule B-5

Page 1

Witness: Bourassa

Line

No.

1	Cash Working Capital (1/8 of Allowance		
2	Operation and Maintenance Expense)	\$	711,390
3	Pumping Power (1/24 of Pumping Power)		11,148
4	Purchased Water (1/24 of Purchased Water)		50
5	Prepays		72,782
6	Materials & Supplies		-
7			
8			
9	Total Working Capital Allowance	<u>\$</u>	<u>795,370</u>
10			
11			
12	Working Capital Requested	<u>\$</u>	<u>-</u>
13			
14			

15 SUPPORTING SCHEDULES:

16 Rejoinder C-1

17

RECAP SCHEDULES:

Rejoinder B-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 1
Witness: Bourassa

Line No.		Test Year Adjusted Results	Adjustment	Rejoinder Test Year Adjusted Results	Proposed Rate Increase	Rejoinder Adjusted with Rate Increase
1	Revenues					
2	Flat Rate Revenues	\$ 6,164,589	\$ -	\$ 6,164,589	\$4,815,141	\$ 10,979,730
3	Measured Revenues	92,030	-	92,030	-	92,030
4	Other Wastewater Revenues	99,755	-	99,755	-	99,755
5		<u>\$ 6,356,374</u>	<u>\$ -</u>	<u>\$ 6,356,374</u>	<u>\$4,815,141</u>	<u>\$ 11,171,515</u>
6	Operating Expenses					
7	Salaries and Wages	\$ -	-	\$ -	-	\$ -
8	Purchased Water and WW Treatment	1,205	-	1,205	-	1,205
9	Sludge Removal Expense	267,554	-	267,554	-	267,554
10	Purchased Power	632,064	-	632,064	-	632,064
11	Fuel for Power Production	2,076	-	2,076	-	2,076
12	Chemicals	279,749	-	279,749	-	279,749
13	Materials and Supplies	75,579	-	75,579	-	75,579
14	Contractual Services	3,117	-	3,117	-	3,117
15	Contractual Services- Testing	33,348	-	33,348	-	33,348
16	Contractual Services - Other	2,716,001	72,805	2,788,806	-	2,788,806
17	Contractual Services - Legal	24,084	-	24,084	-	24,084
18	Equipment Rental	78,309	-	78,309	-	78,309
19	Rents - Building	18,976	-	18,976	-	18,976
20	Transportation Expenses	69,551	-	69,551	-	69,551
21	Insurance - General Liability	32,133	-	32,133	-	32,133
22	Insurance - Vehicle	2,213	-	2,213	-	2,213
23	Regulatory Commission Expense	19,133	(1,136)	17,997	-	17,997
24	Reg.Comm. Exp. - Rate Case	70,000	-	70,000	-	70,000
25	Miscellaneous Expense	36,656	(494)	36,162	-	36,162
26	Bad Debt Expense	43,889	(21,791)	22,098	-	22,098
27	Depreciation and Amortization	1,550,237	(27,384)	1,522,853	-	1,522,853
28	Taxes Other Than Income	-	-	-	-	-
29	Property Taxes	336,629	(2,352)	334,277	-	334,277
30	Income Tax	(99,906)	(6,594)	(106,500)	1,858,590	1,752,091
31						
32	Total Operating Expenses	<u>\$ 6,192,596</u>	<u>\$ 13,054</u>	<u>\$ 6,205,651</u>	<u>\$1,858,590</u>	<u>\$ 8,064,241</u>
33	Operating Income	<u>\$ 163,778</u>	<u>\$ (13,054)</u>	<u>\$ 150,724</u>	<u>\$2,956,550</u>	<u>\$ 3,107,274</u>
34	Other Income (Expense)					
35	Interest Income	-	-	-	-	-
36	Other income	-	-	-	-	-
37	Interest Expense	(322,703)	2,565	(320,138)	-	(320,138)
38	Other Expense	-	-	-	-	-
39						
40	Total Other Income (Expense)	<u>\$ (322,703)</u>	<u>\$ 2,565</u>	<u>\$ (320,138)</u>	<u>\$ -</u>	<u>\$ (320,138)</u>
41	Net Profit (Loss)	<u><u>\$ (158,925)</u></u>	<u><u>\$ (10,489)</u></u>	<u><u>\$ (169,414)</u></u>	<u><u>\$2,956,550</u></u>	<u><u>\$ 2,787,136</u></u>

SUPPORTING SCHEDULES:
Rejoinder C-1, page 2

RECAP SCHEDULES:
Rejoinder A-1

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 2.1
Witness: Bourassa

Continued on
Page 2.2

Line No.	Test Year Adjusted Results	1 Depreciation Expense	2 Property Tax	3 Contractual Services Aerotek	4 Meals & Entertainment	5 Bad Debt Expense	6 Capitalized and Decomm. Expenses	7 Remove Rate Case Expense
1	Revenues							
2	Fiat Rate Revenues	\$ 6,164,589						
3	Measured Revenues	92,030						
4	Other Wastewater Revenues	99,755						
5		\$ 6,356,374	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Operating Expenses							
7	Salaries and Wages	\$ -						
8	Purchased WW Treatment	1,205						
9	Sludge Removal Expense	267,554						
10	Purchased Power	632,064						
11	Fuel for Power Production	2,076						
12	Chemicals	279,749						
13	Materials and Supplies	75,579						
14	Contractual Services	3,117						
15	Contractual Services- Testing	33,348						
16	Contractual Services - Other	2,716,001		(42,200)			(33,705)	
17	Contractual Services - Legal	24,084						
18	Equipment Rental	78,309						
19	Rents - Building	18,976						
20	Transportation Expenses	69,551						
21	Insurance - General Liability	32,133						
22	Insurance - Vehicle	2,213						
23	Regulatory Commission Expense	19,133						
24	Reg. Comm. Exp. - Rate Case	70,000						(1,136)
25	Miscellaneous Expense	36,656			(494)			
26	Bad Debt Expense	43,889				(21,791)		
27	Depreciation and Amortization	1,550,237	(27,384)					
28	Taxes Other Than Income	-						
29	Property Taxes	336,629	(2,352)					
30	Income Tax	(99,906)						
31								
32	Total Operating Expenses	\$ 6,192,596	\$ (27,384)	\$ (42,200)	\$ (494)	\$ (21,791)	\$ (33,705)	\$ (1,136)
33	Operating Income	\$ 163,778	\$ 27,384	\$ 42,200	\$ 494	\$ 21,791	\$ 33,705	\$ 1,136
34	Other Income (Expense)							
35	Interest Income	-						
36	Other Income	-						
37	Interest Expense	(322,703)						
38	Other Expense							
39								
40	Total Other Income (Expense)	\$ (322,703)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41	Net Profit (Loss)	\$ (158,925)	\$ 27,384	\$ 42,200	\$ 494	\$ 21,791	\$ 33,705	\$ 1,136
42								
43	SUPPORTING SCHEDULES:							
44	Rejoinder C-2							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Income Statement

Exhibit
Rejoinder Schedule C-1
Page 2.2
Witness: Bourassa

Continued from
Page 2.1

Line No.	Revenues	8 Remove Unnecessary Expense	9 Central Cost Allocation	10 Interest Synchronization	11 Income Tax	12 Intentionally Left Blank	Rejoinder Test Year Adjusted Results	Proposed Rate Increase	Rejoinder Adjusted with Rate Increase
1	Revenues								
2	Flat Rate Revenues						\$ 6,164,589	\$ 4,815,141	\$ 10,979,730
3	Measured Revenues						92,030		92,030
4	Other Wastewater Revenues						99,755		99,755
5							\$ 6,356,374	\$ 4,815,141	\$ 11,171,515
6	Operating Expenses								
7	Salaries and Wages						\$	\$	
8	Purchased WW Treatment						1,205		1,205
9	Sludge Removal Expense						267,554		267,554
10	Purchased Power						632,064		632,064
11	Fuel for Power Production						2,076		2,076
12	Chemicals						279,749		279,749
13	Materials and Supplies						75,579		75,579
14	Contractual Services						3,117		3,117
15	Contractual Services- Testing						33,348		33,348
16	Contractual Services - Other						2,788,806		2,788,806
17	Contractual Services - Legal	(3,128)	151,838				24,084		24,084
18	Equipment Rental						78,309		78,309
19	Rents - Building						18,976		18,976
20	Transportation Expenses						69,551		69,551
21	Insurance - General Liability						32,133		32,133
22	Insurance - Vehicle						2,213		2,213
23	Regulatory Commission Expense						17,997		17,997
24	Reg. Comm. Exp. - Rate Case						70,000		70,000
25	Miscellaneous Expense						36,162		36,162
26	Bad Debt Expense						22,098		22,098
27	Depreciation and Amortization						1,522,853		1,522,853
28	Taxes Other Than Income								
29	Property Taxes						334,277		334,277
30	Income Tax				(6,594)		(106,500)	1,858,590	1,752,091
31									
32	Total Operating Expenses	\$ (3,128)	\$ 151,838	\$ -	\$ (6,594)	\$ -	\$ 6,205,651	\$ 1,858,590	\$ 8,064,241
33	Operating Income	\$ 3,128	\$ (151,838)	\$ -	\$ 6,594	\$ -	\$ 150,724	\$ 2,956,550	\$ 3,107,274
34	Other Income (Expense)								
35	Interest Income								
36	Other Income								
37	Interest Expense								
38	Other Expense			2,565			(320,138)		(320,138)
39									
40	Total Other Income (Expense)								
41	Net Profit (Loss)	\$ -	\$ -	\$ 2,565	\$ -	\$ -	\$ (320,138)	\$ -	\$ (320,138)
42		\$ 3,128	\$ (151,838)	\$ 2,565	\$ 6,594	\$ -	\$ (169,414)	\$ 2,956,550	\$ 2,787,136
43									
44									

RECAP SCHEDULES:
Rejoinder C-1, page 1

SUPPORTING SCHEDULES:
Rejoinder C-2

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses

Exhibit
Schedule C-2
Page 1
Witness: Bourassa

Line No.	1	2	3	4	5	6	Subtotal
	Depreciation Expense	Property Taxes	Contractual Serv. Aerotek	Meals & Entertainment	Bad Debt Expense	Capitalized Expenses	
Revenues							
Expenses	(27,384)	(2,352)	(42,200)	(494)	(21,791)	(33,705)	(127,926)
Operating Income	27,384	2,352	42,200	494	21,791	33,705	127,926
Interest Expense							
Other							
Income / Expense							
Net Income	27,384	2,352	42,200	494	21,791	33,705	127,926
Line No.	7	8	9	10	11	12	Subtotal
	Remove Rate Case Exp.	Remove Unnecessary Exp.	Central Office Costs	Interest Synchronization	Income Tax	Blank	
Revenues							
Expenses	(1,136)	(3,128)	151,838		(6,594)		13,054
Operating Income	1,136	3,128	(151,838)		6,594		(13,054)
Interest Expense							
Other							
Income / Expense							
Net Income	1,136	3,128	(151,838)	2,565	6,594		(10,489)
Line No.	13	14	15	16	17	18	Total
	Blank	Blank	Blank	Blank	Blank	Blank	
Revenues							
Expenses							
Operating Income							
Interest Expense							
Other							
Income / Expense							
Net Income							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustments to Revenues and Expenses
Adjustment Number 1

Exhibit
Schedule C-2
Page 2
Witness: Bourassa

Line

<u>No.</u>			<u>Adjusted</u>	<u>Proposed</u>	<u>Depreciation</u>
	<u>Acct.</u>	<u>Description</u>	<u>Original</u>	<u>Rates</u>	<u>Expense</u>
	<u>No.</u>		<u>Cost</u>		
1		<u>Depreciation Expense</u>			
2					
3					
4					
5	351	Organization	-	0.00%	-
6	353	Land	1,783,426	0.00%	-
7	354	Structures & Improvements	18,934,312	3.33%	630,513
8	355	Power Generation	548,674	5.00%	27,434
9	360	Collection Sewer Forced	1,161,105	2.00%	23,222
10	361	Collection Sewers Gravity	23,094,661	2.00%	461,893
11	362	Special Collecting Structures	-	2.00%	-
12	363	Customer Services	-	2.00%	-
13	364	Flow Measuring Devices	47,019	10.00%	4,702
14	366	Reuse Services	3,789,468	2.00%	75,789
15	367	Reuse Meters and Installation	52,331	8.33%	4,359
16	370	Receiving Wells	860,393	3.33%	28,651
17	371	Pumping Equipment	1,760,813	12.50%	220,102
18	374	Reuse Distribution Reservoirs	62,825	2.50%	1,571
19	375	Reuse Trans. and Dist. System	414,315	2.50%	10,358
20	380	Treatment & Disposal Equip.	5,431,228	5.00%	271,561
21	381	Plant Sewers	47,788	5.00%	2,389
22	382	Outfall Sewer Lines	343,681	3.33%	11,445
23	389	Other Sewer Plant & Equip.	611,767	6.67%	40,805
24	390	Office Furniture & Equipment	198,772	6.67%	13,258
25	390.1	Computers and Software	-	20.00%	-
26	391	Transportation Equipment	26,078	20.00%	5,216
27	392	Stores Equipment	8,968	4.00%	359
28	393	Tools, Shop And Garage Equip	56,167	5.00%	2,808
29	394	Laboratory Equip	173,948	10.00%	17,395
30	396	Communication Equip	418,996	10.00%	41,900
31	398	Other Tangible Plant	-	10.00%	-
32		TOTALS	\$ 59,826,735		\$ 1,895,729
33					
34		Less: Amortization of Contributions			
35	361	Collection Sewers Gravity	\$ 18,643,786	2.00%	\$ (372,876)
36					
37		Total Depreciation Expense			\$ 1,522,853
38					
39		Test Year Depreciation Expense			1,550,237
40					
41		Increase (decrease) in Depreciation Expense			(27,384)
42					
43		Adjustment to Revenues and/or Expenses			\$ (27,384)
44					
45		<u>SUPPORTING SCHEDULE</u>			
46		B-2, page 3			

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 2

Exhibit
Rejoinder Schedule C-2
Page 3
Witness: Bourassa

Line
No.

1	<u>Adjust Property Taxes to Reflect Proposed Revenues:</u>	
2		
3	Adjusted Revenues in year ended 09/30/2008	\$ 6,356,374
4	Adjusted Revenues in year ended 09/30/2008	6,356,374
5	Proposed Revenues	<u>11,171,515</u>
6	Average of three year's of revenue	\$ 7,961,421
7	Average of three year's of revenue, times 2	\$ 15,922,842
8	Add:	
9	Construction Work in Progress at 10%	\$ 39,301
10	Deduct:	
11	Book Value of Transportation Equipment	<u>15,573</u>
12		
13	Full Cash Value	\$ 15,907,269
14	Assessment Ratio	21%
15	Assessed Value	<u>3,340,527</u>
16	Property Tax Rate	9.5187%
17		
18	Property Tax	317,976
19	Plus: Tax on Parcels	16,302
20		
21	Total Property Tax at Proposed Rates	\$ 334,277
22	Property Taxes recorded during the test year	336,629
23	Change in property taxes	<u><u>\$ (2,352)</u></u>
24		
25		
26	Adjustment to Revenues and/or Expenses	<u><u>\$ (2,352)</u></u>
27		
28		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 3

Exhibit
Rejoinder Schedule C-2
Page 4
Witness: Bourassa

Line

No.

1 Contractual Services - Aerotek

2

3 Remove Contractual Services related to Black Mountain Sewer Company

\$ (42,200)

4

5

6

7 Increase(decrease) in Contractual Services

\$ (42,200)

8

9

10

11 Adjustment to Revenue and/or Expense

\$ (42,200)

12

13

14

15

16

17 See Testimony

18

19

20

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 4

Exhibit
Rejoinder Schedule C-2
Page 5
Witness: Bourassa

Line

No.

1 Miscellaneous Expense

2

3

4 Beverages expenses included in Miscellaneous expense

\$ (494)

5

6

7

8 Increase(decrease) in Miscellaneous Expense

\$ (494)

9

10

11 Adjustment to Revenue and/or Expense

\$ (494)

12

13 SUPPORTING SCHEDULES

14 Staff Schedule JMM-Ww16 Adjustment #4

15

16

17

18

19

20

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 5

Exhibit
Rejoinder Schedule C-2
Page 6
Witness: Bourassa

Line

No.

1 Bad Debt Expense

2

3

4 Normalized Bad Debt Expense

\$ 22,098

5

6 Bad Debt Expense per Direct

43,889

7

8

9 Increase(decrease) in Bad Debt Expense

\$ (21,791)

10

11

12 Adjustment to Revenue and/or Expense

\$ (21,791)

13

14

15 SUPPORTING SCHEDULES

16 Staff Schedule JMM-W17 Adjustment #5

17

18

19

20

Litchfield Park Service Company - Wastewater Division

Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 6

Exhibit
Rejoinder Schedule C-2
Page 7
Witness: Bourassa

Line

No.

1 Capitalized Expenses and Decommissioning Costs

2

3

4

5 354 - Structures and Improvements - Dean Fence and Gate (fence) \$ (3,725)

6 355 - Power Generation Equipment - Loftin Equipment Co. (generator duct) (5,004)

7 371 - Pumping Equipment - Precision Electric (install rebuilt pump) (1,530)

8 371 - Pumping Equipment - Precision Electric (new reinforced strainer baskets) (4,864)

9 389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor site plant and pole mnt) (1,450)

10 389 - Other Plant and Misc. Equip. - Keogh Engineering (odor monitor legal descr. & map) (550)

11 389 - Other Plant and Misc. Equip. - Keogh Engineering (filter system repair) (8,054)

12 389 - Other Plant and Misc. Equip. - Keogh Engineering (work on UV system) (525)

13 354 - Structures and Improvements - Yahweh Contracting LLC (Lift station removal/retirement) (8,003)

14 Total Capitalized Expenses \$ (33,705)

15

16 Increase(decrease) in Contractual Services - Other \$ (33,705)

17

18

19 Adjustment to Revenue and/or Expense \$ (33,705)

20

21

22 SUPPORTING SCHEDULE

23 Rejoinder B-2, page 3.3

24 Rejoinder B-2, page 4.3

25

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 7

Exhibit
Rejoinder Schedule C-2
Page 8
Witness: Bourassa

Line

No.

1 Remove Expenses Included in Rate Case Expense

2

3 Bourassa, CPA Inv. # 1000002402

\$ (155)

4 Bourassa, CPA Inv. # 1000002413

(981)

5

(1,136)

6

7

8 Increase(decrease) in Regulatory Commission Expense

\$ (1,136)

9

10

11 Adjustment to Revenue and/or Expense

\$ (1,136)

12

13

14

15

16

17

18

19

20

21

22

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 8

Exhibit
Rejoinder Schedule C-2
Page 9
Witness: Bourassa

Line

No.

1		
2	<u>Remove Unncessary Expense</u>	
3		
4	Meals and Entertainment Exp cost for the DBack game	\$ (6,400)
5	Meals and Entertainment BALANCE DUE FOR 2008 XMAS PART	(953)
6	Meals and Entertainment DJ SERVICE - XMAS PARTY	(495)
7	Meals and Entertainment For Holiday Party Dec. 2008	(4,959)
8	Meals and Entertainment Catered Lunch	(412)
9	Total	<u>\$ (13,219)</u>
10		
11	Wastewater Divison 4-factor allocation %	23.66%
12		
13	Increase (decrease) in Contractual Services - Other	<u>\$ (3,128)</u>
14		
15		
16	Adjustment to Revenue and/or Expense	<u>\$ (3,128)</u>
17		
18		
19		
20		

Test Year Ended September 30, 2008

Exhibit
Rejoinder Schedule C-2
Page 10
Witness: Bourassa

<u>Cental Office Costs - Infrastructure Allocation</u>							
	Actual Total <u>Cost Pool¹</u>	Adjustments	Rejoinder Total <u>Cost Pool</u>	Utility	LPSCo		
				Infrastructure Group Allocation %	Infrastructure Group Allocated <u>Cost Pool</u>	Allocation by Customer Count	
Audit \$	984,476		984,476	26.98%	\$ 265,652	25.83%	68,618
Tax Services	383,940		383,940	26.98%	103,603	25.83%	26,761
Legal	722,428		722,428	26.98%	194,941	25.83%	50,353
Other Professional Services	448,761		448,761	26.98%	121,094	25.83%	31,279
Management Fee - Total	636,255		636,255	26.98%	171,688	25.83%	44,347
Unit Holder Communication	277,582		277,582	26.98%	74,903	25.83%	19,347
Trustee Fees	225,052		225,052	26.98%	60,728	25.83%	15,686
Escrow & Transfer Agent Fc	63,843		63,843	26.98%	17,227	25.83%	4,450
Rent	295,887		295,887	26.98%	79,843	25.83%	20,623
Licenses/Fees & Permits	128,206	(145,642) ¹	(17,436)	26.98%	-4,705	25.83%	(1,215)
Office Expenses	761,628	(46,186) ¹	715,442	26.98%	193,056	25.83%	49,866
Depreciation	194,727		194,727	26.98%	52,545	25.83%	13,572

Total (Canadian dollars (\$	5,122,785	\$	(191,828)	\$	4,930,957
Factor		1.00		1.00		1.00
Total (US dollars USD)	\$	5,122,785	\$	(191,828)	\$	4,930,957
	\$				\$	1,330,576
	\$				\$	1.00
	\$				\$	343,688

Infrastructure Cost Allocation per Direct (USD)²

Increase (decrease) in Infrastructure Allocated Costs (USD)

Adjustment to Revenues and/or Expenses

¹ Per Response to JMM 5.5

² Per Response to JMM 1.67

Line	No.
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Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and Expenses
Adjustment Number 10

Exhibit
Rejoinder Schedule C-2
Page 11
Witness: Bourassa

Line
No.

1	<u>Interest Synchronization</u>				
2					
3					
4	Fair Value Rate Base		\$	28,222,289	
5	Weighted Cost of Debt			1.13%	
6	Interest Expense		\$	320,138	
7					
8	Test Year Interest Expense		\$	322,703	
9					
10	Increase (decrease) in Interest Expense			(2,565)	
11					
12					
13					
14	Adjustment to Revenue and/or Expense		\$	2,565	
15					
16					
17	<u>Weighted Cost of Debt Computation</u>				
18					
19		<u>Amount</u>	<u>Percent</u>	<u>Cost</u>	<u>Weighted Cost</u>
20	Debt	\$ 11,506,844	17.74%	6.39%	1.13%
21	Equity	\$ 53,361,545	82.26%	12.00%	9.87%
22	Total	\$ 64,868,389	100.00%		11.01%
23					
24					

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Adjustment to Revenues and/or Expenses
Adjustment Number 11

Exhibit
Rejoinder Schedule C-2
Page 12
Witness: Bourassa

Line

No.

Income Tax Computation

	Test Year Adjusted Results	Adjusted with Rate Increase
1		
2		
3		
4		
5		
6		
7	\$ (275,914)	\$ 4,539,227
8	-	-
9	<u>\$ (275,914)</u>	<u>\$ 4,539,227</u>
10		
11		
12		
13	<u>\$ (275,914)</u>	<u>\$ 4,539,227</u>
14		
15		\$ 4,539,227
16		
17		<u>\$ 316,293</u>
18	Rate = 6.97%	
19		\$ 4,222,934
20		
21		\$ 316,293
22		
23		\$ 4,539,227
24		
25		<u>\$ 316,293</u>
26		
27		<u>\$ 4,222,934</u>
28		
29		
30		
31	FEDERAL INCOME TAXES:	
32	15% BRACKET	\$ 7,500
33	25% BRACKET	\$ 6,250
34	34% BRACKET	\$ 8,500 Federal
35	39% BRACKET	\$ 91,650 Effective
36	34% BRACKET	\$ 1,321,897 Tax
37		Rate
38	Federal Income Taxes	<u>\$ 1,435,797 31.63%</u>
39		
40		
41	Total Income Tax	<u>\$ 1,752,091</u>
42		
43	Overall Tax Rate	<u>38.60%</u>
44		
45	Income Tax at Proposed Rates Effective Rate →	<u>\$ (106,500)</u>
46		

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Computation of Gross Revenue Conversion Factor

Exhibit
Rejoinder Schedule C-3
Page 1
Witness: Bourassa

Line		Percentage of Incremental Gross Revenues
No.	Description	
1	Federal Income Taxes	31.63%
2		
3	State Income Taxes	6.97%
4		
5	Other Taxes and Expenses	0.00%
6		
7		
8	Total Tax Percentage	38.60%
9		
10	Operating Income % = 100% - Tax Percentage	61.40%
11		
12		
13		
14		
15	$\frac{1}{\text{Operating Income \%}}$ = Gross Revenue Conversion Factor	
16		1.6286
17		
18	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>
19		Rejoinder A-1
20		

Litchfield Park Service Company - Wastewater Division
Revenue Summary
 With Annualized Revenues to Year End Number of Customers
 Test Year Ended September 30, 2008

Exhibit
 Rejoinder Schedule H-1
 Page 1
 Witness: Bourassa

Line No.	Customer Classification	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Sewer Revenues	Percent of Proposed Sewer Revenues
1	Residential	\$ 4,647,120	\$ 8,267,432	\$ 3,620,312	77.90%	73.99%	74.47%
2	Residential HOA 135	44,064	78,392	34,328	77.90%	0.70%	0.71%
3	Residential HOA 160	52,224	92,909	40,685	77.90%	0.83%	0.84%
4	Residential HOA 520	169,728	301,954	132,226	77.90%	2.70%	2.72%
5	Subtotal	\$ 4,913,136	\$ 8,740,686	\$ 3,827,550	77.90%	78.23%	78.74%
6							
7	Multi-Unit Housing						
8	Multi-Unit 3	9,923	17,654	7,730	77.90%	0.16%	0.16%
9	Multi-Unit 5	3,156	5,615	2,459	77.90%	0.05%	0.05%
10	Multi-Unit 6	1,818	3,234	1,416	77.90%	0.03%	0.03%
11	Multi-Unit 7	8,484	15,093	6,609	77.90%	0.14%	0.14%
12	Multi-Unit 8	73,124	130,088	56,964	77.90%	1.16%	1.17%
13	Multi-Unit 9	2,727	4,851	2,124	77.90%	0.04%	0.04%
14	Multi-Unit 14	46,662	83,012	36,350	77.90%	0.74%	0.75%
15	Multi-Unit 16	116,352	206,991	90,639	77.90%	1.85%	1.86%
16	Multi-Unit 17	5,151	9,164	4,013	77.90%	0.08%	0.08%
17	Multi-Unit 18	5,454	9,703	4,249	77.90%	0.09%	0.09%
18	Multi-Unit 24	7,272	12,937	5,665	77.90%	0.12%	0.12%
19	Multi-Unit 46	13,938	24,796	10,858	77.90%	0.22%	0.22%
20	Multi-Unit 84	25,452	45,279	19,827	77.90%	0.41%	0.41%
21	Multi-Unit 90	27,270	48,514	21,244	77.90%	0.43%	0.44%
22	Multi-Unit 132	79,992	142,307	62,315	77.90%	1.27%	1.28%
23	Multi-Unit 304	92,112	163,868	71,756	77.90%	1.47%	1.48%
24							
25	Subtotal	\$ 518,888	\$ 923,106	\$ 404,219	77.90%	8.26%	8.32%
26							
27	Small Commercial	\$ 84,318	\$ 149,994	65,676	77.89%	1.34%	1.35%
28	Measured Service:						
29	Regular Domestic	\$ 256,547	\$ 456,136	199,590	77.80%	4.08%	4.11%
30	Restaurant, Motels, Grocery, Dry Cleaning	222,936	396,807	173,871	77.99%	3.55%	3.57%
31	Subtotal	\$ 479,482	\$ 852,943	\$ 373,461	77.89%	7.63%	7.68%
32							
33	Wigwam Resort - Per Room	\$ 103,929	\$ 184,891	\$ 80,962	77.90%	1.65%	1.67%
34	Wigwam Resort - Main	12,000	21,348	9,348	77.90%	0.19%	0.19%
35	Subtotal	\$ 115,929	\$ 206,239	\$ 90,310	77.90%	1.85%	1.86%
36							
37	Elementary Schools	\$ 32,640	\$ 58,067	\$ 25,427	77.90%	0.52%	0.52%
38	Middle and High Schools	28,800	51,235	22,435	77.90%	0.46%	0.46%
39	Community College	14,880	26,472	11,592	77.90%	0.24%	0.24%
40	Subtotal	\$ 76,320	\$ 135,773	\$ 59,453	77.90%	1.22%	1.22%
41							
42	Effluent Sales	92,268	92,268	-	0.00%	1.47%	0.83%
43	Total Revenues Before Revenues Annualization	\$ 6,280,340	\$ 11,101,009	\$ 4,820,668	76.76%	197.19%	197.82%

Litchfield Park Service Company - Wastewater Division
Revenue Summary
With Annualized Revenues to Year End Number of Customers
Test Year Ended September 30, 2008

Exhibit
Rejoinder Schedule H-1
Page 2
Witness: Bourassa

Line No.	Customer Classification	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Sewer Revenues	Percent of Proposed Sewer Revenues
1							
2	<u>Revenue Annualization</u>						
3	Residential	\$ (36,394)	\$ (64,746)	\$ (28,352)	77.90%	-0.58%	-0.58%
4	Multi-Unit Housing - Multit-Unit 8	2,020	3,594	1,574	77.90%	0.03%	0.03%
5	Small Commercial	138	245	107	77.89%	0.00%	0.00%
6	Measured Service:						
7	Regular Domestic	21,275	37,827	16,552	77.80%	0.34%	0.34%
8	Restaurant, Motels, Grocery, Dry Cleaning	11,357	20,215	8,858	77.99%	0.18%	0.18%
9	Effluent Sales	(25,908)	(25,908)	-	0.00%	-0.41%	-0.23%
10	Subtotal Revenue Annualization	(27,512)	(28,773)	(1,262)	4.59%	-0.44%	-0.26%
11							
12	<u>Misc Service Revenues</u>						
13	Misc Revenues	99754.94	99754.94	0.00	0.00%	1.59%	0.90%
14	Reconciling Amount to C-1	3791.00	(475.00)	(4266.00)	-112.53%	0.06%	0.00%
15	Totals	6,356,375	11,171,515	4,815,141	75.75%	197.25%	197.81%
16							
17	Revenue Reconciliation						
18	Recorded Revenues		\$ 99,755				
19	Amount per Bill Count Before Rev. Annualization		6,380,095				
20	Difference		\$ (6,280,340)				
21	Tolerance (+/- 1/2 percent)		\$ 499				
22	Acceptable		No				
23							
24							
25							
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43							

Litchfield Park Service Company - Wastewater Division
Test Year Ended September 30, 2008
Analysis of Revenue by Detailed Class
Special Rate Commercial Customers Pay Standard Commerical Rate

Rejoinder Schedule H-2
Page 1
Witness: Bourassa

Line No.	Customer Classification	Average Number of Customers at 9/30/2008	Average Water Use	Average Bill		Proposed Increase	
		Present Rates		Proposed Rates	Dollar Amount	Percent Amount	
1	Residential	14,126	N/A	\$ 27.20	\$ 48.39	\$ 21.19	77.904%
2	Residential HOA 135	1	N/A	3,672.00	6,532.65	2,860.65	77.904%
3	Residential HOA 160	1	N/A	4,352.00	7,742.40	3,390.40	77.904%
4	Residential HOA 520	1	N/A	14,144.00	25,162.80	11,018.80	77.904%
5							
6	Multi-Unit Housing						
7	Multi-Unit 3	11	N/A	75.75	134.76	59.01	77.901%
8	Multi-Unit 5	2	N/A	126.25	224.60	98.35	77.901%
9	Multi-Unit 6	1	N/A	151.50	269.52	118.02	77.901%
10	Multi-Unit 7	4	N/A	176.75	314.44	137.69	77.901%
11	Multi-Unit 8	30	N/A	202.00	359.36	157.36	77.901%
12	Multi-Unit 9	1	N/A	227.25	404.28	177.03	77.901%
13	Multi-Unit 14	11	N/A	353.50	628.88	275.38	77.901%
14	Multi-Unit 16	24	N/A	404.00	718.72	314.72	77.901%
15	Multi-Unit 17	1	N/A	429.25	763.64	334.39	77.901%
16	Multi-Unit 18	1	N/A	454.50	808.56	354.06	77.901%
17	Multi-Unit 24	1	N/A	606.00	1,078.08	472.08	77.901%
18	Multi-Unit 46	1	N/A	1,161.50	2,066.32	904.82	77.901%
19	Multi-Unit 84	1	N/A	2,121.00	3,773.28	1,652.28	77.901%
20	Multi-Unit 90	1	N/A	2,272.50	4,042.80	1,770.30	77.901%
21	Multi-Unit 132	2	N/A	3,333.00	5,929.44	2,596.44	77.901%
22	Multi-Unit 304	1	N/A	7,676.00	13,655.68	5,979.68	77.901%
23							
24	Small Commercial	153	N/A	46.00	81.83	35.83	77.891%
25	Measured Service:						
26	Regular Domestic	138	57,450	155.01	275.61	120.60	77.799%
27	Restaurant, Motels, Grocery, Dry Cleaning	62	91,567	300.45	534.78	234.33	77.992%
28							
29	Wigwam Resort - Per Room	1	N/A	8,660.75	15,407.56	6,746.81	77.901%
30	Wigwam Resort - Main	1	N/A	1,000.00	1,779.00	779.00	77.900%
31							
32	Elementary Schools	4	N/A	680	1,210	529.72	77.900%
33	Middle and High Schools	3	N/A	800	1,423	623.20	77.900%
34	Community College	1	N/A	1,240	2,206	965.96	77.900%
35							
36	Effluent Sales (\$55 per acre foot)	4	5,939,470	1,003	1,003	-	0.000%
37	Effluent Sales (\$100 per acre foot)	0	2,856,100	877	877	-	0.000%
38	Effluent Sales (\$225 per acre foot)	1	3,383,491	2,336	2,336	-	0.000%
39	Total	14,589					
40							
41							

Litchfield Park Service Company - Wastewater Division
Present and Proposed Rates
Test Year Ended September 30, 2008

Exhibit
Rejoinder Schedule H-3
Page 1
Witness: Bourassa

Line

No.

	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Percent Change</u>
1			
2			
3			
4			
5			
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¹ Motels without restuarants charged multi-unit monthly rate.

² Market Rate - Maximum effluent rate shall not exceed \$430 per acre foot based on a potable water rate of \$1.32 per thousand gallons.

Litchfield Park Service Company - Wastewater Division
Changes in Representative Rate Schedules
Test Year Ended September 30, 2008

Exhibit
Rejoinder Schedule H-3
Page 2
Witness: Bourassa

Line No.	Other Service Charges	Present Rates	Proposed Rates
1	Establishment (Regular Hours) per Rule R14-2-603D (a)	\$ 20.00	\$ 20.00
2	Establishment (After Hours) per Rule R14-2-603D (a)	\$ 40.00	\$ 40.00
3	Re-Establishment of Service per Rule R14-2-603D (a)	(b)	(b)
4	Reconnection (Regular Hours) per Rule R14-2-603D (a)	\$ 50.00	\$ 50.00
5	Reconnection (After Hours) per Rule R14-2-603D (a)	\$ 65.00	\$ 65.00
6	NSF Check, per Rule R14-2-608E (a)	\$ 20.00	\$ 20.00
7	Deferred Payment, Per Month	1.50%	1.50%
8	Late Charge	(c)	(c)
9	Service Calls - Per Hour/After Hours(d)	\$ 40.00	\$ 40.00
10	Deposit Requirement	(e)	(e)
11	Deposit Interest	3.50%	3.50%
12	Service Lateral Connection Charge- All Sizes	(f)	(f)
13	Main Extension Tariff, per Rule R14-2-606B	(g)	(g)
14			
15			
16			
17	(a) Service charges for customers taking both water and sewer service are not duplicative.		
18	(b) Minimum charge times number of full months off the system. per Rule R14-2-603D.		
19	(c) Per Rule R14-2-608F. Greater of \$5.00 or 1.5% of unpaid balance.		
20	(d) No charge for service calls during normal working hours.		
21	(e) Per ACC Rules R14-2-603B <u>Residential</u> - two times the average bill.		
22	<u>Non-residential</u> - two and one-half times the average bill.		
23	(f) At cost. Customer/Developer shall install or cuase to be installed all Service Laterals as a		
24	non-refundable contribution-in-aid of construction..		
25	(g) All Main Extensions shall be completed at cost and shall be treated as non-refundable		
26	contribution-in-aid of construction.		
27			
28			
29	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
30	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
31	TAX. PER COMMISSION RULE 14-2-608D(5).		
32			
33			
34			
35			
36			

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3003 N. Central Ave.
3 Suite 2600
Phoenix, Arizona 85012
4 Attorneys for Litchfield Park Service Company

5
6 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7 IN THE MATTER OF THE APPLICATION
8 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
9 CORPORATION, FOR A
DETERMINATION OF THE FAIR VALUE
10 OF ITS UTILITY PLANTS AND
PROPERTY AND FOR INCREASES IN ITS
11 WASTEWATER RATES AND CHARGES
FOR UTILITY SERVICE BASED
12 THEREON.

DOCKET NO: SW-01428A-09-0103

13 IN THE MATTER OF THE APPLICATION
14 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
CORPORATION, FOR A
15 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
16 PROPERTY AND FOR INCREASES IN ITS
WATER RATES AND CHARGES FOR
17 UTILITY SERVICE BASED THEREON.

DOCKET NO: W-01427A-09-0104

18 IN THE MATTER OF THE APPLICATION
19 OF LITCHFIELD PARK SERVICE
COMPANY, AN ARIZONA
CORPORATION, FOR AUTHORITY (1) TO
20 ISSUE EVIDENCE OF INDEBTEDNESS IN
AN AMOUNT NOT TO EXCEED \$1,755,000
21 IN CONNECTION WITH (A) THE
CONSTRUCTION OF TWO RECHARGE
22 WELL INFRASTRUCTURE
IMPROVEMENTS AND (2) TO
23 ENCUMBER ITS REAL PROPERTY AND
PLANT AS SECURITY FOR SUCH
24 INDEBTEDNESS.

DOCKET NO. W-01427A-09-0116



1 IN THE MATTER OF THE APPLICATION
2 OF LITCHFIELD PARK SERVICE
3 COMPANY, AN ARIZONA
4 CORPORATION, FOR AUTHORITY (1) TO
5 ISSUE EVIDENCE OF INDEBTEDNESS IN
6 AN AMOUNT NOT TO EXCEED \$1,170,000
7 IN CONNECTION WITH (A) THE
8 CONSTRUCTION OF ONE 200 KW ROOF
9 MOUNTED SOLAR GENERATOR
10 INFRASTRUCTURE IMPROVEMENTS
11 AND (2) TO ENCUMBER ITS REAL
12 PROPERTY AND PLANT AS SECURITY
13 FOR SUCH INDEBTEDNESS.

DOCKET NO. W-01427A-09-0120

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26
REJOINDER TESTIMONY

of

THOMAS J. BOURASSA

on

COST OF CAPITAL

(Phase 1 – Determination of Rate Base and Rates)

December 29, 2009

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TABLE OF CONTENTS

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	A. Response to Staff’s Criticisms of LPSCO’s Cost of Capital Analysis	3
IV.	RESPONSE TO RUCO’S COST OF CAPITAL ANALYSIS.....	8

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

6 A. On behalf of the applicant, Litchfield Park Service Company ("LPSCO" or the
7 "Company").

8 **Q. ARE YOU THE SAME THOMAS J. BOURASSA THAT FILED DIRECT
9 AND REBUTTAL TESTIMONY ON RATE BASE, INCOME STATEMENT,
10 REVENUE REQUIREMENT AND RATE DESIGN IN THIS CASE?**

11 A. Yes. My background and qualifications are discussed in my direct testimony on
12 those aspects of the case. My rejoinder testimony on those subjects is also being
13 filed today with this testimony.

14 **Q. DID YOU ALSO PREPARE DIRECT AND REBUTTAL TESTIMONY ON
15 COST OF CAPITAL ON BEHALF OF LPSCO IN THIS CASE?**

16 A. Yes.

17 **II. SUMMARY OF REJOINDER TESTIMONY AND THE PROPOSED COST
18 OF CAPITAL FOR THE COMPANY.**

19 A. I will respond as appropriate to the surrebuttal testimonies of Mr. Manrique on
20 behalf of Staff and Mr. Rigsby on behalf of RUCO.

21 **Q. HAVE YOU UPDATED YOUR COST OF CAPITAL ANALYSIS?**

22 A. No. I updated my cost of capital analysis on my rebuttal testimony filed on
23 December 2, 2009. I updated my cost of capital in my rebuttal testimony because
24 of the significant period of time between the Company's direct filing and its
25 rebuttal filing, I did not feel the need to provide an additional update at this time as
26 my rebuttal update is less than 1 month old.

1 **Q. PLEASE SUMMARIZE YOUR RECOMMENDED REJOINDER COST OF**
2 **DEBT AND EQUITY, AND YOUR RECOMMENDED REJOINDER RATE**
3 **OF RETURN ON RATE BASE.**

4 A. I continue to recommend a cost of equity of 12.0 percent based on my most recent
5 cost of capital analysis. The results of my cost of capital analysis can be found in
6 my rebuttal testimony.¹ The Company's recommended capital structure consists of
7 approximately 82.3 percent debt and 17.7 percent common equity as shown on
8 Rejoinder Schedule D-1. Based on my 12.0 percent recommended cost of equity,
9 the Company's weighted cost of capital ("WACC") is 11.01 percent, as shown on
10 Rejoinder Schedule D-1.

11 A. Summary of the Recommendations of Staff and RUCO.

12 **Q. PLEASE SUMMARIZE THE COST OF DEBT AND EQUITY**
13 **RECOMMENDED BY STAFF AND RUCO, AND THEIR RESPECTIVE**
14 **RECOMMENDATIONS FOR THE RATE OF RETURN ON FAIR VALUE**
15 **RATE BASE.**

16 A. Staff has updated its cost of capital analysis in its surrebuttal testimony and
17 continues to recommend a cost of equity of 9.2 percent based on the average cost
18 of equity produced by its DCF and CAPM models (10.1 percent) and an 80 basis
19 point downward adjustment for LPSCO's lower financial risk as compared to the
20 publicly traded water utilities in Staff's sample group.² Staff continues to ignore
21 LPSCO's firm-specific risks, focusing solely on financial risk. Staff continues to
22 recommend a capital structure consisting of approximately 17.2 percent debt and
23

24
25 ¹ See Rebuttal Testimony of Thomas J. Bourassa (Cost of Capital - Phase I Determination of Rate
Base and Rates) ("Bourassa COC Rb.") at 2.

26 ² See Surrebuttal Testimony of Juan C. Manrique ("Manrique Sb.") at 2.

1 82.8 percent equity.³ Based on Staff's recommended capital structure, Staff
2 determined the WACC for LPSCO to be 9.2 percent.⁴

3 RUCO now recommends a cost of equity of 9.0 percent.⁵ RUCO is
4 recommending a capital structure of 17.8 percent debt and 82.2 percent equity.⁶
5 RUCO's recommended cost of debt is 6.39 percent, based on the Company's
6 average cost of debt. Based on RUCO's recommended capital structure, RUCO
7 computed a WACC of 8.54 percent, which is RUCO's recommended rate of return
8 on FVRB.⁷ RUCO also did not consider firm-specific risks other than financial
9 risk.

10 **Q. DID MR. RISGBY UPDATE HIS COST OF CAPITAL ANALYSIS AND**
11 **SCHEDULES?**

12 A. No. Mr. Rigsby revised his cost of equity estimate upward from 8.01 percent to
13 9.0 percent based on recent information about the improving state of the economy.⁸
14 While the additional basis points are welcome, I find it difficult to respond to his
15 recommendation because I don't know what he based his new number on.

16 **III. RESPONSE TO STAFF'S COST OF CAPITAL ANALYSIS**

17 **A. Response to Staff's Criticisms of LPSCO's Cost of Capital Analysis**

18 **Q. PLEASE RESPOND TO MR. MANRIQUE'S TESTIMONY THAT THE**
19 **IBBOTSON DATA INDICATING HIGHER BETAS FOR SMALLER**
20 **COMPANIES IS NOT UTILITY INDUSTRY SPECIFIC.**

21
22 ³ Manrique Sb. at 2.

23 ⁴ Manrique Sb. at 2.

24 ⁵ See Surrebuttal Testimony of William A. Rigsby ("Rigsby Sb.") at 6.

25 ⁶ Rigsby Sb. at 5.

26 ⁷ Rigsby Sb. at 9.

⁸ Rigsby Sb. at 6.

1 A. Mr. Manrique asserts that because the Ibbotson data is market wide it is not useful
2 for determining utility industry specific risk premia.⁹ This is not true. In fact, the
3 Ibbotson data contains industry specific risk premia data used as a component to
4 the buildup method of estimating the cost of equity. The Ibbotson industry risk
5 premium in conjunction with the Ibbotson small company risk premium can be
6 used to estimate the premium over and above the Ibbotson market risk premium on
7 large stocks.

8 Let me explain. One of the methods for determining cost of equity is the
9 buildup method.¹⁰ In fact, according to Ibbotson, it is one of the most commonly
10 used and effective methods to estimate the cost of equity.¹¹ Put simply, the buildup
11 method is an additive model in which the return on an asset is estimated as the sum
12 of a risk-free rate and one or more risk premia. The equation for the buildup
13 method is as follows:¹²

14 Riskless Rate
15 + Equity Risk Premium (large stocks)
16 + Industry Risk Premium
17 + Size Premium
18 = Cost of Equity Estimate

19 The Industry Risk Premium and the Size Premium data are published by Ibbotson¹³
20 and can be combined to estimate the additional risk premium for small water utility
21 company stocks over large company stocks. For example, Ibbotson identifies a

22 ⁹ Manrique Sb. at 3.

23 ¹⁰ See Morningstar *Ibbotson SBBI 2009 Valuation Yearbook* ("Ibbotson") at 29.

24 ¹¹ *Ibbotson* at 29.

25 ¹² *Ibbotson* at 33.

26 ¹³ Industry risk premium can be found in Table 3-5 of *Ibbotson*. Small company risk premium for Decile 10 can be found in Appendix C of *Ibbotson*.

1 market risk premium for the water supply industry as a negative 3.64 percent. The
2 Ibbotson small company risk premium for the Decile 10 stocks¹⁴ is 5.81 percent.
3 Based on this data, the additional indicated risk premium required over and above
4 large company stocks risk premium for small utilities, like LPSCO, is 217 basis
5 points (5.84 percent minus 3.64 percent).

6 **Q. THE 217 BASIS POINT SMALL UTILITY RISK PREMIUM IS OVER**
7 **LARGE COMPANY STOCKS, BUT ARE THE PUBLICLY TRADED**
8 **WATER UTILITY COMPANIES IN THE SAMPLE USED IN YOUR COST**
9 **OF EQUITY ANALYSIS CONSIDERED LARGE COMPANY STOCKS BY**
10 **IBBOTSON?**

11 A. No. My cost of equity analysis is based on a sample of publicly traded water
12 utilities of different market capitalizations (from Decile 10 for Middlesex Water
13 and Connecticut Water to Mid-cap for Aqua America). Recognizing this, a small
14 utility risk premium can be further refined to identify the additional risk premium
15 over and above the cost of equity for the sample water utilities. If we assume the
16 water industry risk premium is the same for all the sample water utilities as well as
17 LPSCO, then the additional risk premium is only related to the relative size of each
18 utility to LPSCO. This is exactly what I have done in my size premium study
19 presented in my rebuttal testimony.¹⁵ The study indicates a risk premium over and
20 above the returns of the publicly traded utility companies of 1.81 percent.

21 **Q. THIS SIZE RISK PREMIUM IS NOT RELATED TO FINANCIAL RISK?**

22 A. Correct. Measures on financial risk are contained within the beta estimate. The
23 1.81 percent risk premium is based upon a beta adjusted size premium.¹⁶ In other

24 ¹⁴ LPSCO would be considered in the smallest decile.

25 ¹⁵ See Bourassa COC Rb. at Attachment 1.

26 ¹⁶ Beta adjusted size premium.

1 words, the additional risk premium for size is the risk premium not explained by
2 beta. Ibbotson devotes an entire chapter on firm size and return.¹⁷

3 **Q. THE 181 BASIS POINT INDICATED RISK PREMIUM FOR LPSCO**
4 **WOULD MORE THAN OFFSET STAFF'S 80 BASIS POINT FINANCIAL**
5 **RISK ADJUSTMENT. CORRECT?**

6 A. Yes. And Staff's indicated cost of equity would be 11.11 percent (10.1 percent
7 minus 0.8 percent plus 1.81 percent). As I have suggested, Staff's financial risk is
8 overstated so Staff's indicated cost of equity would be much higher.

9 **Q. DOES THE "JANUARY EFFECT" DISPROVE THE NOTION THAT**
10 **THERE IS NO RISK PREMIUM ON SMALL COMPANY STOCKS OVER**
11 **LARGE COMPANY STOCKS?**

12 A. No. Mr. Manrique presents this as an argument against any size premium.¹⁸
13 However, while Ibbotson acknowledges the "January effect" in discussing size
14 premia, Ibbotson states that "... simply demonstrating that the size premium is
15 largely produced by the January effect does nothing to refute the existence of such
16 a premium."¹⁹

17 Ibbotson specifically concludes:²⁰

18 Most criticisms of the use of a size premia do not address the
19 underlying reason for the existence of size premia. Small
20 capitalization stocks are still considered riskier investments
21 than large company stocks. Investors require an additional
22 reward, in the form of an additional return, to take on the
added risk of an investment in small-capitalization stock. It is
unlikely that future investors will require no compensation for
taking on this additional risk.....

23 ... Most criticisms presented to date...have not provided

24 ¹⁷ Ibbotson Chapter 7 – Firm Size and Return.

25 ¹⁸ Manrique Sb. at 3.

26 ¹⁹ Ibbotson at 101.

²⁰ Ibbotson at 105.

1 sufficient evidence to disprove the existence of a size premia.

2 **Q. DOES THE ANNIE WONG STUDY CITED BY MR. MANRIQUE**
3 **DISPROVE THE EXISTENCE OF A SIZE PREMIUM FOR SMALL**
4 **UTILITY STOCKS?**

5 A. No. As Dr. Zepp concluded in his review of Ms. Wong's study, "[her] weak
6 evidence provides little support for a small firm effect existing or not existing in
7 either the industrial or utility sector."²¹ As I testified in my rebuttal testimony,
8 even the California PUC conducted a study that showed smaller water utilities are
9 more risky than larger ones.²²

10 **Q. HAS STAFF PROVIDED ANY SUPPORT FOR USING BOOK DEBT AND**
11 **EQUITY?**

12 A. No. Staff's discussion on the subject other than their financial risk adjustment is
13 sparse.²³ Mr. Manrique does admit that the Hamada methodology was developed
14 using market values.²⁴ However, his only explanation is that Staff believes that it is
15 prudent and reasonable.²⁵ It is difficult to address this subject adequately at this
16 time without Staff providing authority from recognized financial experts
17 supporting the use of book values. I have been unable to find any authority for
18 using book value in the Hamada formula.

19

20

21

22

23

24

25

26

²¹ Thomas M. Zepp, "Utility Stocks and the Size Effect – Revisited", The Quarterly Review
Economics and Finance, Vol. 43, Issue 3, Autumn 2003, 578-582.

²² Bourassa COC Rb. at 6.

²³ Manrique Sb. at 4.

²⁴ Manrique Sb. at 4.

²⁵ Manrique Sb. at 4.

1 **IV. RESPONSE TO RUCO'S COST OF CAPITAL ANALYSIS**

2 **Q. PLEASE RESPOND TO MR. RIGSBY'S TESTIMONY THAT THE USE OF**
3 **GEOMETRIC MEANS AND INCOME RETURNS IS APPROPRIATE**
4 **BECAUSE THIS INFORMATION IS AVAILABLE TO INVESTORS.**

5 A. Rather than focusing on what method is conceptually correct,²⁶ Mr. Rigsby
6 contends that if an investor has information available, such information should be
7 used to determine the Company's cost of equity even if its use is improper.
8 Mr. Rigsby further asserts, for example, that Value Line calculates both historic
9 and prospective growth rates on a geometric or compound growth rate basis.²⁷ But
10 the Value Line instructions do not explain how Value Line's projections of future
11 growth are actually determined, nor would an investor know what type of average
12 is being used. If the test is simply whether investors have information available,
13 and not whether its use is conceptually correct, then the Commission's prior
14 rejection of methods such as the risk premium method and the comparable earnings
15 method in past cases was improper.²⁸ In that case, the Commission stated that the
16 risk premium methodology is based on a "comparable earnings" method that "has
17 long been discredited."²⁹ Even if true, however, an investor may still rely on that
18 method and, under the logic of Mr. Rigsby, the Commission should have
19 considered it.

20 Moreover, there are types of information and methods that the Commission
21 should also consider if it were to accept the arguments of Mr. Rigsby. For
22 example, Value Line reports projected returns on equity (2012 through 2014) for
23

24 ²⁶ Bourassa COC Rb. at 18.

25 ²⁷ Rigsby Sb. at 16.

26 ²⁸ See Arizona Water Company Decision No. 68302 (November 14, 2005) at 37-38.

²⁹ *Id.* at 37.

1 the water utility group and the gas utility group used by Mr. Rigsby in his cost of
2 capital analysis have projected returns of 11.8 percent and 11.2 percent,
3 respectively.

4 The projected Value Line returns are shown below.

5 RUCO Water Utility Sample Group

6	Stock		Value Line Projected
7	<u>Symbol</u>	<u>Company</u>	<u>Book Return</u> <u>on Equity</u> ³⁰
8	AWR	American States Water Co.	12.0
9	WTR	Aqua America	11.5
10	CWT	California Water Services Group	12.0
11	SWWC	Southwest Water Company	<u>8.0</u>
12		Average	10.9

13 RUCO Gas Utility Sample Group

14	Stock		Value Line Projected
15	<u>Symbol</u>	<u>Company</u>	<u>Book Return</u> <u>on Equity</u> ³¹
16	AGL	AGL Resources, Inc.	14.0
17	ATO	Atmos Energy Corp.	9.5
18	LG	Laclede Group, Inc.	11.0
19	NJR	New Jersey Resources Corp.	10.0
20	GAS	Nicor, Inc.	12.0
21	NWN	Northwest Natural Gas	11.0
22	PNY	Piedmont Natural Gas Company	12.5
23	SJI	South Jersey Industry	13.5
24	SWX	Southwest Gas Corp.	8.0

25 ³⁰ Value Line Investment Survey October 23, 2009.

26 ³¹ *Id.*

<u>Stock Symbol</u>	<u>Company</u>	<u>Value Line Projected Book Return on Equity³¹</u>
WGL	WGL Holdings, Inc.	10.5
	Average	11.2

Value Line's forecasts are widely available and would be considered by investors in evaluating an investment in those utilities. In fact, Mr. Rigsby specifically selected the four water utilities for his proxy group for LPSCO because Value Line provides long-term estimates of those utilities' return on common equity.³² Therefore, if the principal criterion for deciding whether to consider a particular equity cost estimate is its availability to investors, the Commission should use Value Line's projected average return of 10.9 percent to estimate LPSCO's cost of equity.

Moreover, there are other types of information and methods that the Commission should also consider if it were to accept the arguments of Rigsby. For example, Value Line reports projected returns on equity for the larger water utilities in the Staff water utility sample group, American States Water, Aqua America and California Water. For the period 2012 through 2014, Value Line currently projects an average return on equity of 11.8 percent.³³ Arguably, Southwest Water is not comparable to LPSCO or even to the other water utilities in Mr. Rigsby's sample group. It derives less than 50 percent of its revenues from regulated utility services whereas the other three utilities on average derive nearly 89 percent of revenues from regulated activities.³⁴ Value Line's forecasts are

³² See Direct testimony of William A Rigsby ("Rigsby Dt.") at 21.

³³ Value Line Investment Survey October 23, 2009.

³⁴ Based on information contained in AUS Utility Reports, December 2009.

1 widely available and would be considered by investors in evaluating an investment
2 in those utilities. In fact, Mr. Rigsby specifically selected those four water utilities
3 for his proxy group for LPSCO because Value Line provides long-term estimates
4 of those utilities' return on common equity. Therefore, if the principal criterion for
5 deciding whether to consider a particular equity cost estimate is its availability to
6 investors, the Commission should use Value Line's projected average return of
7 11.8 percent to estimate LPSCO's cost of equity.

8 Similarly, the market-to-book ("M/B") ratios of the sample water utilities
9 are widely available to the investment community, along with the book values of
10 those utilities' stocks. Some authorities believe that it is improper to use a market-
11 based equity return derived by means of the DCF model with an original cost (i.e.,
12 net book value) rate base when a utility's stock is trading above book value.³⁵
13 Instead, when an original cost rate base is used, the book value of the sample water
14 utilities' stocks should be used to calculate the dividend yield to ensure
15 methodological consistency.³⁶ The average M/B ratio of the sample water utilities
16 used by Mr. Rigsby is over 1.8³⁷, i.e., the average market price of those utilities'
17 stocks is two times their book value. That means that the dividend yield
18 calculations made by the parties are understated by over 40 percent. Thus, instead
19 of being in 3.0 percent to 3.8 percent range for the sample water utility group, the
20 dividend yield should be 120 to 150 basis points higher, and the parties' DCF
21 model estimates should likewise be 120 to 150 basis points higher.

22
23
24 ³⁵ See, e.g., Win Whittaker, *The Discounted Cash Flow Methodology: Its Use in Estimating a*
Utility's Cost of Equity, 12 Energy L.J. 265 (1991).

25 ³⁶ *Id.* at 281-83 (citing *Farmers Union Cent. Exch., Inc. v. FERC*, 734 F.2d 1486 (D.C.Cir.
1984)).

26 ³⁷ See RUCO Direct Schedule WAR-4, page 2 of 2.

1 The bottom line is that investors may use data from investment sources such
2 as Value Line and Ibbotson incorrectly, as RUCO contends, or erroneously may
3 assume that Value Line's projected earnings and growth rates are based on
4 geometric averages. Investors undoubtedly use (and misuse) a variety of
5 information in deciding whether to invest in securities. But that does not mean the
6 Commission should make the same mistakes in determining the cost of capital for
7 water utilities. For the reasons stated, there is no conceptual basis for using
8 geometric averages to estimate expected returns on equity. Therefore, the cost of
9 equity estimates of Mr. Rigsby should be rejected.

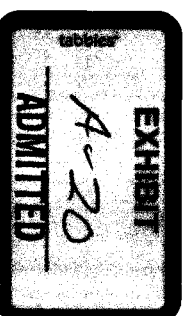
10 **Q. DOES THAT CONCLUDE YOUR REJOINDER TESTIMONY?**

11 **A. Yes.**

Litchfield Park Service Company
Test Year Ended September 30, 2008
Present and Proposed Rates

Exhibit
Settlement Schedule H-3
Page 1
Witness: Bourassa

Line No.	Monthly Usage Charge for:	Present Rates	Residential Proposed Rates	Percent Change	Commercial Proposed Rates	Percent Change	Irrigation Proposed Rates	Percent Change
1	All Customer Class (except where noted)							
2	5/8 inch	6.75	10.20	51.11%	10.20	51.11%	10.20	51.11%
3	3/4 inch	8.30	19.00	128.92%	19.00	128.92%	19.00	128.92%
4	1 inch	14.60	31.67	116.89%	31.67	116.89%	31.67	116.89%
5	1 1/2 inch	28.60	69.67	143.59%	69.67	143.59%	69.67	143.59%
6	2 inch	56.50	111.47	97.29%	111.47	97.29%	111.47	97.29%
7	3 inch	NT						
8	4 inch	132.00	348.33	163.89%	348.33	163.89%	348.33	163.89%
9	6 inch	NT						
10	8 inch	225.00	501.00	122.67%	501.00	122.67%	501.00	122.67%
11	10 inch	330.00	960.00	190.91%	960.00	190.91%	960.00	190.91%
12	12 inch	450.00	1,500.00	233.33%	1,500.00	233.33%	960.00	113.33%
13								
14	Fire Hydrant (Construction)	\$ 100.00	by Meter Size		by Meter Size		by Meter Size	
15								
16	8 inch - Bulk (resale only)	- \$	501.00		\$ 501.00		\$ 501.00	
17								
18								
19								
20								
21	Gallons In Minimum (All Zones and C	-						
22								
23								
24								
25								
26								
27	Commodity Rates							
28	Residential, Commercial, Industrial							
29	Gallons Per Tiers							
30	Tier 1: (Gallon upper limit)							
31	5/8 inch	5,000	3,000		3,000		3,000	
32	3/4 inch	5,000	15,000		15,000		15,000	
33	1 inch	5,000	15,000		15,000		15,000	
34	1 1/2 inch	5,000	90,000		90,000		90,000	
35	2 inch	5,000	140,000		140,000		140,000	
36	3 inch							
37	4 inch	5,000	180,000		180,000		180,000	
38	6 inch							
39	8 inch (bulk resale only)	5,000	NA		99,999,999		NA	
40	8 inch	5,000	670,000		670,000		670,000	
41	10 inch	5,000	940,000		940,000		940,000	
42	12 inch	5,000	1,200,000		1,200,000		1,200,000	
43								
44								
45								
46								
47	Tier 2: (Gallons upper limit)							
48	5/8 inch	99,999,999	10,000		10,000		10,000	
49	3/4 inch	99,999,999	50,000		50,000		50,000	
50	1 inch	99,999,999	100,000		100,000		100,000	
51	1 1/2 inch	99,999,999	99,999,999		99,999,999		99,999,999	
52	2 inch	99,999,999	99,999,999		99,999,999		99,999,999	
53	3 inch	99,999,999	99,999,999		99,999,999		99,999,999	
54	4 inch	99,999,999	99,999,999		99,999,999		99,999,999	
55	6 inch	99,999,999	99,999,999		99,999,999		99,999,999	
56	8 inch	99,999,999	99,999,999		99,999,999		99,999,999	
57	10 inch	99,999,999	99,999,999		99,999,999		99,999,999	
58	12 inch	99,999,999	99,999,999		99,999,999		99,999,999	



Litchfield Park Service Company
Test Year Ended September 30, 2008
Present and Proposed Rates

Exhibit
Settlement Schedule H-3
Page 2
Witness: Bourassa

Line No.	Present Rates	Residential Proposed Rates	Commercial Proposed Rates	Irrigation Proposed Rates
Tier 3: (Gallons upper limit)				
1	99,999,999	99,999,999	99,999,999	99,999,999
2	99,999,999	99,999,999	99,999,999	99,999,999
3	99,999,999	99,999,999	99,999,999	99,999,999
4	99,999,999	99,999,999	99,999,999	99,999,999
5	99,999,999	99,999,999	99,999,999	99,999,999
6	99,999,999	99,999,999	99,999,999	99,999,999
7	99,999,999	99,999,999	99,999,999	99,999,999
8	99,999,999	99,999,999	99,999,999	99,999,999
9	99,999,999	99,999,999	99,999,999	99,999,999
10	99,999,999	99,999,999	99,999,999	99,999,999
11	99,999,999	99,999,999	99,999,999	99,999,999
12	99,999,999	99,999,999	99,999,999	99,999,999
13				
14	Residential, Commercial, Industrial			
15	Commodity Rates			
16	Present Rates	Residential Proposed Rates	Commercial Proposed Rates	Irrigation Proposed Rates
17	0.87	1.25	1.25	1.25
18	0.87	1.90	1.90	1.90
19	0.87	1.90	1.90	1.90
20	0.87	2.75	2.75	2.75
21	0.87	2.75	2.75	2.75
22	0.87	2.75	2.75	2.75
23	0.87	2.75	2.75	2.75
24	0.87	NA	1.50	NA
25	0.87	2.75	2.75	2.75
26	0.87	2.75	2.75	2.75
27	0.87	2.75	2.75	2.75
28	0.87	2.75	2.75	2.75
29				
30				
31				
32				
33	Second Tier			
34	Present Rates	Residential Proposed Rates	Commercial Proposed Rates	Irrigation Proposed Rates
35	1.32	1.80	1.80	1.80
36	1.32	2.45	2.45	2.45
37	1.32	2.45	2.45	2.45
38	1.32	3.47	3.47	3.47
39	1.32	3.47	3.47	3.47
40	1.32	3.47	3.47	3.47
41	1.32	NA	1.50	NA
42	1.32	3.47	3.47	3.47
43	1.32	3.47	3.47	3.47
44	1.32	3.47	3.47	3.47
45	1.32	3.47	3.47	3.47
46				
47				

Litchfield Park Service Company
Test Year Ended September 30, 2008
Present and Proposed Rates

Exhibit
Settlement Schedule H-3
Page 3
Witness: Bourassa

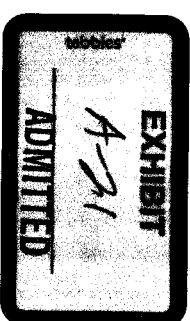
Line No.		Present Rates	Residential Proposed Rates	Percent Change	Commercial Proposed Rates	Percent Change	Irrigation Proposed Rates	Percent Change
1								
2								
3								
4	Third Tier							
5	5/8 inch	\$ 1.32	\$ 2.40	81.82%	\$ 2.40	81.82%	\$ 2.40	81.82%
6	3/4 inch	\$ 1.32	\$ 3.05	131.06%	\$ 3.05	131.06%	\$ 3.05	131.06%
7	1 inch	\$ 1.32	\$ 3.30	150.00%	\$ 3.30	150.00%	\$ 3.30	150.00%
8	1 1/2 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
9	2 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
10	3 inch							
11	4 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
12	6 inch							
13	8 inch (bulk resale only)	\$ 1.32	NA		\$ 1.50	13.64%	NA	
14	8 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
15	10 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
16	12 inch	\$ 1.32	\$ 3.47	162.88%	\$ 3.47	162.88%	\$ 3.47	162.88%
17								
18								
19								
20								
21								
22								
23								
24								
25	Standpipe (Fire Hydrants)							
26	All Gallons	\$ 2.50	\$ 3.47	38.80%	\$ 3.47	38.80%	\$ 3.47	38.80%
27								
28								
29								
30								
31								
32								
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Litchfield Park Service Company
Test Year Ended September 30, 2008
Customer Summary

Exhibit
 Settlement Schedule H-2
 Page 1
 Witness: Bourassa

Line No.	Meter Size, Class	(a) Average Number of Customers at 9/30/2008	Average Consumption	Average Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58	4,661	10.80	16.94	6.13	56.78%
2	3/4 Inch Residential	8,919	9,537	18.64	37.12	18.48	99.16%
3	1 Inch Residential	5,209	14,556	31.56	59.32	27.76	87.95%
4	1.5 Inch Residential	44	57,667	102.47	228.25	125.78	122.75%
5	2 Inch Residential	101	58,065	130.90	271.15	140.25	107.15%
6	4 Inch Residential	3	308,972	539.84	1,049.98	510.14	94.50%
7	Subtotal	14,333					
8	Commercial	148	5,342	11.55	18.16	6.61	57.26%
9	5/8 Inch Commercial	57	8,000	16.61	34.20	17.59	105.90%
10	3/4 Inch Commercial	83	13,804	30.57	57.89	27.32	89.38%
11	1 Inch Commercial	46	67,854	115.92	198.59	82.67	71.32%
12	1.5 Inch Commercial	232	65,909	141.25	292.72	151.47	107.23%
13	2 Inch Commercial	8	388,827	645.25	1,567.96	922.71	143.00%
14	4 Inch Commercial	1	861,500	1,464.93	3,329.13	1,864.20	127.25%
15	Subtotal	575					
16	Irrigation	3	18,722	29.21	47.48	18.27	62.54%
17	5/8 Inch Irrigation	115	15,176	26.08	47.93	21.85	83.77%
18	3/4 Inch Irrigation	215	34,762	58.24	108.58	50.35	86.45%
19	1 Inch Irrigation	86	88,340	142.96	312.60	169.64	118.67%
20	1.5 Inch Irrigation	234	204,389	324.04	719.90	395.85	122.16%
21	2 Inch Irrigation	8	724,899	1,086.62	2,734.13	1,647.52	151.62%
22	Subtotal	661					
23	Hydrant	23	120,247	400.62	550.86	150.24	37.50%
24	Bulk Water	2	12,574,167	16,820.65	19,362.25	2,541.60	15.11%
25	Total	15,594					

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.



Litchfield Park Service Company
Test Year Ended September 30, 2008
Customer Summary

Exhibit
Settlement Schedule H-2
Page 2
Witness: Bourassa

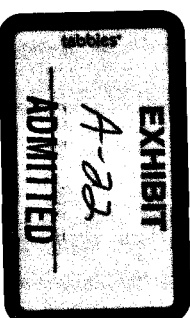
Line No.	Meter Size, Class	Average Number of Customers at 9/30/2008	Median Consumption	Median Bill		Proposed Increase	
				Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch Residential	58	3,000	\$ 9.36	\$ 13.95	\$ 4.59	49.04%
2	3/4 Inch Residential	8,919	7,000	15.29	32.30	17.01	111.25%
3	1 Inch Residential	5,209	10,000	25.55	50.67	25.12	98.30%
4	1.5 Inch Residential	44	24,000	58.03	135.67	77.64	133.79%
5	2 Inch Residential	101	21,000	81.97	169.22	87.25	106.44%
6	4 Inch Residential	3	5,000	138.60	357.18	218.58	157.71%
7	Subtotal	14,333					
8	Commercial	148	7,000	\$ 13.74	\$ 21.15	\$ 7.41	53.93%
9	5/8 Inch Commercial	57	-	9.17	20.90	11.73	127.92%
10	3/4 Inch Commercial	83	7,000	21.59	44.97	23.38	108.28%
11	1 Inch Commercial	46	43,000	83.11	151.37	68.26	82.13%
12	1.5 Inch Commercial	232	22,000	83.29	171.97	88.68	106.47%
13	2 Inch Commercial	2	11,056,000	14,816.67	17,085.00	2,268.33	15.31%
14	8 Inch Commercial	1	820,500	1,410.81	3,216.38	1,805.57	127.98%
15	10 Inch Commercial	569					
16	Subtotal						
17	Irrigation	3	5,000	\$ 11.10	\$ 17.55	\$ 6.45	58.11%
18	5/8 Inch Irrigation	115	-	13.97	30.40	16.43	117.61%
19	3/4 Inch Irrigation	215	17,000	34.79	65.07	30.28	87.03%
20	1 Inch Irrigation	86	50,000	92.35	207.17	114.82	124.33%
21	1.5 Inch Irrigation	234	123,000	216.61	449.72	233.11	107.62%
22	2 Inch Irrigation	8	463,002	740.91	1,825.35	1,084.44	146.37%
23	4 Inch Irrigation	661					
24	Subtotal						
25	Hydrant	23	27,000	\$ 167.50	\$ 227.29	\$ 59.79	35.70%
26	Bulk Water	2	11,056,000	14,816.67	17,085.00	2,268.33	15.31%
27							
28							
29	Total						
30							
31							
32							

(a) Average number of customers of less than one (1), indicates that less than 12 bills were issued during the year.

Litchfield Park Service Company
Test Year Ended September 30, 2008
Revenue Summary
With Annualized Revenues to Year End Number of Customers

Exhibit
Settlement Schedule H-1
Page 1
Witness: Bourassa

Line No.	Meter Size	Class	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1	5/8 Inch	Residential	7,929	12,278	4,349	54.85%	0.12%	0.09%
2	3/4 Inch	Residential	2,023,567	4,067,381	2,043,814	101.00%	30.10%	30.12%
3	1 Inch	Residential	1,986,898	3,878,284	1,891,386	95.19%	29.55%	28.72%
4	1.5 Inch	Residential	54,252	128,302	74,050	136.49%	0.81%	0.95%
5	2 Inch	Residential	159,078	347,729	188,651	118.59%	2.37%	2.58%
6	4 Inch	Residential	19,434	40,825	21,390	110.06%	0.29%	0.30%
7								
8		Subtotal	4,251,158	8,474,799	4,223,641	99.35%	63.23%	62.77%
9								
10	5/8 Inch	Commercial	24,344	40,472	16,128	66.25%	0.36%	0.30%
11	3/4 Inch	Commercial	12,320	25,631	13,312	108.05%	0.18%	0.19%
12	1 Inch	Commercial	31,023	60,909	29,887	96.34%	0.46%	0.45%
13	1.5 Inch	Commercial	64,158	116,470	52,313	81.54%	0.95%	0.86%
14	2 Inch	Commercial	394,253	858,471	464,219	117.75%	5.86%	6.36%
15	4 Inch	Commercial	65,170	162,465	97,295	149.29%	0.97%	1.20%
16	10 Inch	Commercial	17,579	41,800	24,221	137.78%	0.26%	0.31%
17								
18		Subtotal	608,846	1,306,219	697,373	114.54%	9.06%	9.67%
19								
20								
21	5/8 Inch	Irrigation	1,076	1,816	739	68.66%	0.02%	0.01%
22	3/4 Inch	Irrigation	36,970	74,269	37,299	100.89%	0.55%	0.55%
23	1 Inch	Irrigation	151,173	297,635	146,461	96.88%	2.25%	2.20%
24	1.5 Inch	Irrigation	148,413	351,439	203,026	136.80%	2.21%	2.60%
25	2 Inch	Irrigation	908,626	2,116,935	1,208,309	132.98%	13.52%	15.68%
26	4 Inch	Irrigation	104,340	265,069	160,729	154.04%	1.55%	1.96%
27								
28		Subtotal	1,350,600	3,107,163	1,756,563	130.06%	20.09%	23.01%
29								
30		Hydrant	108,568	149,282	40,715	37.50%	1.61%	1.11%
31	8 Inch	Bulk Water	403,707	464,694	60,987	15.11%	6.00%	3.44%
32								
33		Total Revenues Before Annualization	6,722,877	13,502,156	6,779,279	100.84%	100.00%	100.00%
34								



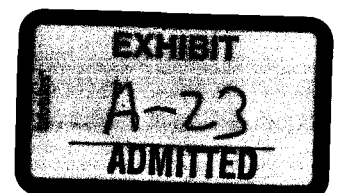
Litchfield Park Service Company
Test Year Ended September 30, 2008
Revenue Summary
With Annualized Revenues to Year End Number of Customers

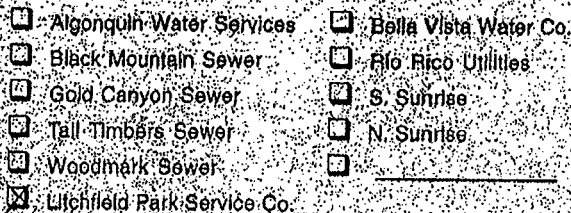
Exhibit
Settlement Schedule H-1
Page 3
Witness: Bourassa

Line No.	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Water Revenues	Percent of Proposed Water Revenues
1						
2						
3	\$ 6,722,877	\$ 13,502,156	\$ 6,779,279	100.84%	100.00%	100.00%
4	27,723	59,837	32,114	115.84%	0.41%	0.44%
5	\$ 6,750,600	\$ 13,561,993	\$ 6,811,393	100.90%		
6						
7	Misc. Revenues					
8	Reconciling Amount to GL					
9	Total Water Revenues					
10						
11						
12						
13						
14						
15						
16						
17						
18						
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33						
34						
35						

LIST OF STIPULATED FACTS

- Last Rate Filings for:
 - Valencia Water Company - Greater Buckeye Division
W -02451A-97-0204, Decision No. 60386 (August 29, 1997)
 - Valencia Water Company
W-01212A-97-0504, Decision No. 60832 (April 30, 1998)
 - Palo Verde Utilities
No rate filings.
CC&N granted SW-03575A-98-0327, Decision No. 61943
(September 17, 1999)
 - Santa Cruz Water
No rate filings.
CC&N granted W-03576A-98-0328, Decision No. 61943
(September 17, 1999)
- Pending Global Rate Case (Docket Nos. SW-20445A-09-0077, W-02451A-09-0078, W-01732A-09-0079, W-20446A-09-0080, W-02450A-09-0081 and W-01212A-09-0082) (filed February 20, 2009)
 - Global requested 3 year amortization of rate case expense
 - ~~Neither Staff nor~~ RUCO [^]opposed Global's request
did not oppose





20781

This # must appear on all
Invoices, Packing Lists
and Correspondence

12725 W. Indian School Rd., Suite D101
Avondale, AZ 85392
Phone: 623-935-9367 Fax: 623-935-1020

Vendor: CHRYSLER PUMP

Date Ordered 9/12/08

Attn: _____
Address: P.O. Box 5757
GOOD YEAR AZ 85338

Date Required	ASAP
---------------	------

Phone: _____
Fax: _____

8600-10008-00161

[illegible]

White - Vendor
Yellow - Plant
Pink - Accounts Payable

By: Edwin Allen Matthews DuLock
By: Robert DuLock Authorized Signatory

Authorized: S

1998

A-24

ADMITTED

CH2OICE PUMP INCPO BOX 5757
GOODYEAR, AZ 85338

Invoice

Customer No.: LPSCO

Invoice No.: 12310

Bill To: LPSCO

12725 W. Indian School Road
D-101
AVONDALE, AZ 85323

Ship To: Town Well # 6

Date	Ship Via	JOB #	JOB SITE		
09/11/08		C28-019			
Purchase Order Number		Order Date	Static	Setting	
20781		09/11/08			
Quantity		Item Number	Description	Unit Price	Amount
1	1		200 HP Elec Motor Premium EFF 460V 3 Phase	13875.00	13875.00
1	1		4 Stage 14 EMM Bowl Assembly 1700 GPM @ 380'	8243.00	8243.00
10	10		10" X 20' Buttq	708.60	7086.00
14	14		2.5 x 1.5 x 20' LH Tube & Shaft	545.00	7630.00
12	12		10" X 2.5 BW Spiders	18.00	216.00
28	28		2.5 x 5' Oil Tubes	69.50	1946.00
1	1		422' .75" Airline Banding Buckles	680.00	680.00
1	1		Misc Drip Oil, Rope & Packing	350.00	350.00
1	1		Shop Labor (Tube & Shaft)	2160.00	2160.00
1	1		Sonar Jet Well	3827.88	3827.88
1	1		Head Shaft	192.00	192.00
1	1		Strech Tube	187.00	187.00
1	1		Rig Labor to Pull	5100.00	5100.00
1	1		Crane Labor to Haul Pump to and from Shop	1450.00	1450.00
1	1		Rig Labor To Install	5880.00	5880.00
1	1		Swabbing Well with Condent	1425.00	1425.00

Invoice subtotal
Sales tax @ 4.095%
Sales tax @ 2.600%60247.88
2467.15
1566.44

Thank You

9/25/08

Billing Statement

INVOICE # 09230801

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ENTD OCT 01 2008

ALGONQUIN
12725 W. Indian School Rd. # D 101
Uichfield Park, AZ, 85323
Attn: Accounts Payable / Donna

From: Sid Ramirez
Re: Water service repair

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Projects: 14228 Green Tree Dr.

P.O. # 20827

WATER

9/19/08

- 1 EA. WATER LEAK / TROUBLE SHOT
- 1 EA. WATER SERVICE / REPAIR
- 1 EA. ASPHALT SAWCUT / REMOVE / REPLACE
- 1 EA. LABOR / TRUCK, TOOLS / BACKHOE
- 1 EA. EXCAVATE / BACKFILL / COMPACT

SUBTOTAL \$ 1,423.12

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVAL / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 1,423.12

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

Company Name: <u>LPSC</u>		
Description <u>81600-10008-000414</u>	PO # <u>20827</u>	Received Date
MGR Approval <u>[Signature]</u>	MGR Approval	
GL Code / FWO # <u>81600-10008-000414</u>	Cost Code <u>B-5200-0000050</u>	
GL Code / FWO #	Cost Code	

RAM PIPELINES LLC

12/26/07

Billing Statement

INVOICE # 12260701

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ, 85323
Office (623) 474-2226
Fax (623) 474-2229

ALGONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ, 85323
Attn: Accounts Payable

From: Sid Ramirez
Re: Emergency W/L Repair

Ram Pipelines L.L.C. has completed the following work that was performed on a Holiday Weekend. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Company Name: <u>LPSCO</u>		
Description <u>8600-10007-001809</u>	PO#	Received Date
MGR Approval <i>[Signature]</i>	MGR Approval <i>[Signature]</i>	
GL Code / FWO # <u>8600-10007-001809</u>	Cost Code <u>3-5200-1000-0050</u>	
GL Code / FWO # <u>Emera Main Lines</u>	Cost Code	

Projects: Fairway

P.O. # 18069

ENTD JAN 03 2008

WATER

12/23,24/07

- 1 EA. EMERGENCY W/L REPAIR / LIVE
- 1 EA. C.O. LITCHFIELD PARK PERMIT / DRAWING MISC.
- 1 EA. TROUBLE SHOOT W/L LEAK
- 1 EA. ASPHALT CUT / REMOVE / TEMP. PATCH
- 1 EA. 6" REPAIR CLAMP INSTALLATION
- 6 YRDS. 1/2 SACK SLURRY
- 1 EA. BARRICADES
- 1 EA. EXCAVATE / BACKFILL / COMPACT
- 1 EA. MISC. STREET CLEAN UP
- 16 HRS. OVERTIME LABOR / TRUCK, TOOLS / TRASH PUMPS / BACKHOE

SUB TOTAL \$ 5,799.63

NOTE: (1) W/L VALVES WERE NOT SHUTTING DOWN, THE ABOVE WORK TOOK OVER TEN HOURS JUST TO REPAIR SHEER BREAK CAUSED BY TREE ROOTS UNDER AND AROUND THE 6" A.C.P. W/L

(2) THE ABOVE BILLING DOES NOT INCLUDE ASPHALT REPLACEMENT / WILL BE DONE AT LATER DATE.....

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVE / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 5,799.63

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

9/16/08

Billing Statement

INVOICE # 09150801

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ALCONQUIN
12725 W. Indian School Rd. # D 101
Uitchfield Park, AZ. 85323
Attn: Accounts Payable / Donna

From: Sid Ramirez
Re: Meter removal / reinstall

Company Name: <u>LPSCD</u>		
Description <u>8600-10008-000414</u>	PO# <u>20815</u>	Received Date
MGR Approval <u>[Signature]</u>	MGR Approval	
GL Code / FWO # <u>8600-10008-000414</u>	Cost Code <u>3.5200-1000-0050</u>	
GL Code / FWO #	Cost Code	

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Projects: Wfgwam

P.O. # 20815

WATER

9/13/08

PAID SEP 12 2008

- 1 EA. 4" METER REMOVAL / REINSTALLATION
- 3 EA. 4" GASKETS, NUTS, & BOLTS
- 1 EA. CONFINED SPACE EQUIPMENT
- 1 EA. LITE PLATES / GENERATOR
- 1 EA. OVERTIME RATE ADJUSTMENT
- 1 EA. LABOR / TRUCK, TOOLS

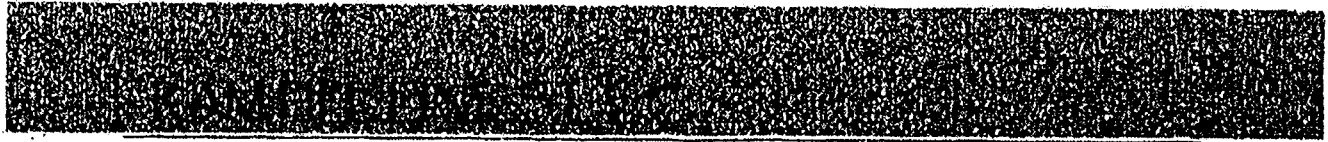
SUB TOTAL \$2,096.88

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVAL / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$2,096.88

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.



Date 9/15/08

To: LPSCO
Attn: Justin

Project: Wigwam

P.O. # 20815

INVOICE # 09150001

WATER

9/13/08

1 EA. 4" METER REMOVAL / REINSTALLATION
3 EA. 4" GASKITS, NUTS & BOLTS
1 EA. CONFINED SPACE EQUIPMENT
1 EA. LITE PLATES / GENERATOR
1 EA. OVERTIME RATE ADJUSTMENT
1 EA. LABOR / TRUCK, TOOLS

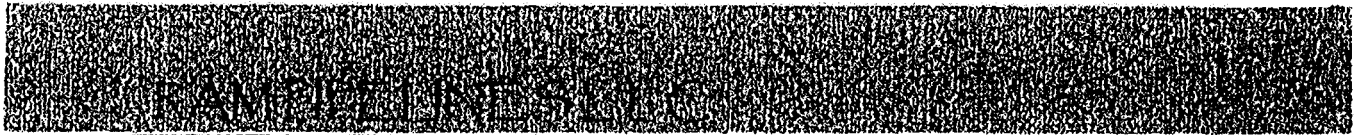
SUB TOTAL \$2,096.88

TOTAL \$2,096.88

NOTE: PLEASE REVIEW THE ABOVE BILLING INFORMATION / RAM PIPELINES LLC. BILLING STATEMENT / INVOICE
WILL BE SENT TO ALGONQUIN / DONNA UPON YOUR APPROVAL.

Sincerely,

The Sid Man / Ram Pipelines LLC.



9/16/08

Billing Statement

INVOICE # 09160801

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ALCONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ. 85323
Attn: Accounts Payable / Donna

From: Sid Ramirez
Re: Trouble shoot / water meter

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Company Name: <u>LP3CO</u>		
Description <u>8600-10008-000414</u>	PO# <u>20816</u>	Received Date
MGR Approval 	MGR Approval	
GL Code / FWO # <u>8600-10008-000414</u>	Cost Code <u>3.5200-1000-0050</u>	
GL Code / FWO #	Cost Code	

Projects: Fairway / Old Litchfield Rd.

P.O. # 20816

WATER

9/15/08

END SEP 22 2008

- 1 EA. TROUBLE SHOOT 1-1/2" WATER METER VALVE
- 1 EA. REMOVE / REPAIR 1-1/2" WATER SERVICE
- 1 EA. LABOR / TRUCK, TOOLS
- 1 EA. EXCAVATE / BACKFILL / COMPACT

SUB TOTAL \$ 582.20

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVE / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 582.20

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

RAM PIPELINES LLC

6/09/08

Billing Statement

INVOICE # 06090808

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ALGONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ. 85323
Attn: Accounts Payable / Donna

From: Sid Ramirez
Re: Double 1" Water Service Trouble Shoot

Company Name: LPSC		
Description 8600-10008-001015	PO# 18682	Received Date
MGR Approval <i>[Signature]</i>	MGR Approval	
GL Code / FWO # 8600-10008-001015	Cost Code 3-5200-10000050	
GL Code / FWO #	Cost Code	

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Projects: 4606,4607 Desert Stream Way.

P.O. # **18682**

WATER

6/05/08

- 1 EA. 1 1/2" W/L SERVICE TO MAIN TROUBLE SHOOT
- 1 EA. 1 1/2" W/L SERVICE REPAIR
- 1 EA. ASPHALT SAWCUT / REMOVAL / REPLACE AS PER MAG. SPEC.
- 1 EA. EXCAVATE / BACKFILL / COMPACT
- 1 EA. LABOR / TRUCK, TOOLS / BACKHOE

SUB TOTAL \$ 1,240.00

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVAL / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 1,240.00

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

RAM PIPELINES L.L.C.

12/06/07

Billing Statement

INVOICE # 12060701

ENTD DEC 19 2007

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ, 85323
Office (623) 474-2226
Fax (623) 474-2229

ALGONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ, 85323
Attn: Accounts Payable

From: Sid Ramirez
Re: 1" Ford Meter Box Trouble shoot

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Projects: 15273 W. Whittan Ave.

P.O. # 17650

WATER

12/03/07

- 1 EA. 1" FORD METER BOX TROUBLESHOOT
- 1 EA. REMOVE / REPAIR / REINSTALL METER BOX
- 1 EA. EXCAVATE / BACKFILL / COMPACT
- 1 EA. LABOR / TRUCK/TOOLS

SUB TOTAL \$ 540.00

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIF RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ON-SITE TRAFFIC CONTROL AND THE REMOVE / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 540.00

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

RAM PIPELINES LLC

1/14/08

Billing Statement

INVOICE # 01140802

PAID FEB 06 2008

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ALGONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ. 85323
Attn: Accounts Payable

From: Sid Ramirez
Re: Water Line Repair / Litchfield Greens

Company Name: <i>LPSC</i>		
Description <i>8600-10008-001015</i>	PO#	Received Date
MGR Approval	MGR Approval <i>[Signature]</i>	
GL Code / FWO # <i>8600-10008-001015</i>	Cost Code <i>3-5200-1000-0050</i>	
GL Code / FWO #	Cost Code	

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Project: Clear Creek / Litchfield Greens Blvd.

P.O. # *18140*

WATER

1/11/08

- 1 EA. TROUBLE SHOOT WATER LEAK
- 1 EA. ASPHALT CUT
- 1 EA. DUMP TRAILER / HAUL OFF (MUD)
- 1 EA. BARRICADES
- 1 EA. LABOR / TRUCK, TOOLS / TRASH PUMPS / BACKHOE

SUB TOTAL \$ 1,893.75

NOTE: THE ABOVE W/L TROUBLE SHOOT WAS INCOMPLETE / WORK BEGAN AFTER 9:00 A.M., ENDED BEFORE 4:00 P.M. DUE TO TRAFFIC AT GATE ENTRANCE.....

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIP RAP, TAMPER DEVICES, OVERTIME, HARD DIO, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POUCE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVE / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 1,893.75

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

RAM PIPELINES LLC

1/14/08

Billing Statement

INVOICE # 01140803

END FEB 06 2008

Ram Pipelines L.L.C.
10750 W. McDowell Road
Suite # F-605
Avondale, AZ. 85323
Office (623) 474-2226
Fax (623) 474-2229

ALCONQUIN
12725 W. Indian School Rd. # D 101
Litchfield Park, AZ. 85323
Attn: Accounts Payable

From: Sid Ramirez
Re: Water Line Repair / Litchfield Greens

Ram Pipelines L.L.C. has completed the following. Please submit to the concerned parties for Billing. Feel free to contact me at (623) 628-5203 with any questions. Thank you for your assistance.

Company Name:		
Description	PO #	Received Date
8600-10008-001015		
MGR Approval	MGR Approval	
GL Code / FWO #	Cost Code	
8600-10008-001015	9-5800-10000000	
GL Code / FWO #	Cost Code	

Project: Clear Creek / Litchfield Greens Blvd.

P.O. # 18141

WATER

1/12/08

- 1 EA. TROUBLE SHOOT WATER LEAK / CONTINUED
- 1 EA. ASPHALT CUT / NO. #2
- 1 EA. REPAIR 1" SERVICE LINE / GUARD SHACK
- 1 EA. DUMP TRAILER / HAUL OFF (MUD)
- 1 EA. BARRICADES
- 1 EA. LABOR / TRUCK, TOOLS / TRASH PUMPS / BACKHOE

SUB TOTAL \$ 2,925.25

NOTE: THE ABOVE W/L TROUBLE SHOOT WAS CONTINUED ON SATURDAY / WORK BEGAN AFTER 9:00 A.M., ENDED AT 6:00 P.M. / OVERTIME ADJUSTMENTS WERE APPLIED.....

EXCLUSIONS: PERMITS, TAXES, CITY FEES, BONDS, STAKING, CONFLICTS WITH EXISTING UTILITIES, FINAL ADJUSTMENTS, BUILDING CONNECTIONS, METERS, PAINTING & SIGNAGE, HAUL-OFF, TESTING OF EXISTING UTILITIES, SPECIAL INSURANCE, DRY WELLS, RIF RAP, TAMPER DEVICES, OVERTIME, HARD DIG, DIRT THAT WILL NOT HOLD A VERTICAL EDGE, POLICE OFFICER, PAVEMENT THICKER THAN 4", ELECTRICAL WORK, PAVEMENT MARKERS, ONSITE TRAFFIC CONTROL AND THE REMOVAL / REPLACEMENT OF CONCRETE OR LANDSCAPING.

TOTAL \$ 2,925.25

Sincerely,

Sid Ramirez / Ram Pipelines L.L.C.

**LITCHFIELD PARK SERVICE COMPANY
DOCKET NOS. SW-01428A-09-0103 AND W-01427A-09-0104
RESPONSE TO RUCO'S THIRD SET OF DATA REQUESTS**

October 2, 2009

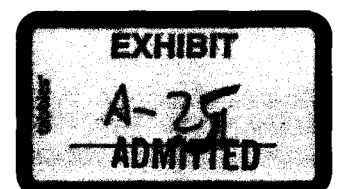
Response provided by: Gerald Tremblay
Title: Director of Finance
Company Name: Algonquin Power Income Fund
Address: 2845 Bristol Circle
Oakville, Ontario Canada L6H 7H7

Company Response Number: MJR 3.7

Q. In response to Staff Data Request JMM 1.16 LPSCO indicates that "...a reconciliation was performed to eliminate any profit in all plant costs." Please provide a narrative description of how this reconciliation was performed and work papers (in excel format) showing how the results of the reconciliation were calculated.

RESPONSE: As described in the response to data request MJR 3.6 (a), all engineering services had been charged out at market rates. A detailed list of all capitalized engineering service labor was created with the charge out rates capitalized compared to the individual cost flow through rate.

Please see the attached excel file.



First Name	Last Name	Hours	Project	Water/Sewer	Asset ID	Asset Class	NARUC	Job Name	Beg Tx date	Date	Burden	OH rate	Rate	Total Billet	Total Cost	Profit
Matthew	Garlick	3	8600-0105-56	8600-0105-56	1 Organization	101-333	4 AL (Airline) Well Site	4 AL (Airline) Well Site	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	375	\$199.38	\$199.38
	Joel	4.5	8600-0105-56	8600-0105-56	15 Services	101-333	Arsenic Pilot Study	Arsenic Pilot Study	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	562.5	\$305.19	\$257.31
	Wade	8.5	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	1,062.50	\$497.58	\$564.92
Eddie	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Joel	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$21.63	140	\$64.24	\$75.76
	Wade	6	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$21.63	420	\$192.72	\$227.28
Eddie	Joel	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$21.63	140	\$64.24	\$75.76
	Subers	1.5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	187.5	\$101.73	\$85.77
	Wade	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	250	\$135.64	\$114.36
Joel	Subers	3	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
	Joel	3	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
	Wade	5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	400	\$218.67	\$181.33
Joel	Subers	4	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	320	\$174.93	\$145.07
	Joel	4	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	320	\$174.93	\$145.07
	Wade	3.5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	437.5	\$237.37	\$200.13
Joel	Wade	4.5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	562.5	\$305.19	\$257.31
	Joel	10	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	1,250.00	\$585.39	\$664.61
	Matthew	Garlick	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73
Joel	Subers	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
	Joel	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
	Wade	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Matthew	Garlick	10	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	1,250.00	\$585.39	\$664.61
	Joel	10	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Joel	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
	Wade	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
Matthew	Garlick	10	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	1,250.00	\$585.39	\$664.61
	Joel	10	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Joel	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
	Wade	2	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
Matthew	Garlick	9.5	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	1,187.50	\$556.12	\$631.38
	Joel	3.5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	437.5	\$237.37	\$200.13
	Wade	5.5	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-354	Survival Lift Station	Survival Lift Station	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	687.5	\$373.01	\$314.49
Joel	Wade	5	8600-0105-56	8600-0105-56	6 Collection Sewer Forced	101-360	McDowell & PC Util Install	McDowell & PC Util Install	2/1/2004	2/1/2004	0.35	10.00%	\$45.67	625	\$339.10	\$285.90
	Wade	3	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	375	\$199.38	\$159.38
	Matthew	Garlick	3	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	375	\$199.38
Matthew	Garlick	5	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$39.42	625	\$392.69	\$332.31
	Subers	2	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
	Subers	1	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	2	8600-0105-56	8600-0105-56	1 Organization	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	140	\$87.47	\$52.53
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Joel	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
	Subers	1	8600-0105-56	8600-0105-56	4 Structures & Improvements	101-351	Casitas Bonitas (LPSCO L51)	Casitas Bonitas (LPSCO L51)	2/1/2004	2/1/20						

Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/1/2004	4/3/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	4	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	3/28/2004	3/28/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	1	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	80	\$43.73	\$36.27
Jim	Subers	2	8600-0105-56	8600-2003-000306	200	6	Collection Sewer Forced	101-360	McDowell & PC Utl Install	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	160	\$87.47	\$72.53
Jim	Subers	2	8600-0105-56	8600-2003-000306	200	6	Collection Sewer Forced	101-360	McDowell & PC Utl Install	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	160	\$87.47	\$72.53
Jim	Subers	1	8600-0105-56	8600-2003-000306	200	6	Collection Sewer Forced	101-360	McDowell & PC Utl Install	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	80	\$43.73	\$36.27
Jim	Subers	1	8600-0105-56	8600-2003-000306	200	6	Collection Sewer Forced	101-360	McDowell & PC Utl Install	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	80	\$43.73	\$36.27
Jim	Subers	3	8600-0105-56	8600-2003-000307	200	7	Collection Sewers Gravity	101-361	McDowell & PC Utl Install	3/28/2004	4/3/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Matthew	Garlick	5	8600-0105-56	8600-2003-000101	200	1	Organization	101-351	Casitas Bonitas (LPSCO L51)	4/4/2004	4/10/2004	0.35	10.00%	\$39.42	625	\$292.69	\$332.31
Jim	Subers	1	8600-0105-56	8600-2003-000104	200	4	Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Jim	Subers	1	8600-0105-56	8600-2003-000104	200	4	Structures & Improvements	101-354	Casitas Bonitas (LPSCO L51)	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	70	\$43.73	\$26.27
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3	8600-0105-56	8600-2003-000204	200	4	Structures & Improvements	101-354	Survial Lift Station	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	3.5	8600-0105-56	8600-2003-000307	200	7	Collection Sewers Gravity	101-361	McDowell & PC Utl Install	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	280	\$153.07	\$126.93
Jim	Subers	3	8600-0105-56	8600-2003-000307	200	7	Collection Sewers Gravity	101-361	McDowell & PC Utl Install	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	2	8600-0105-56	8600-2003-000317	200	17	Reuse Transmission And Distrib.	101-375	McDowell & PC Utl Install	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	240	\$131.20	\$108.80
Jim	Subers	2	8600-0105-56	8600-2003-000317	200	17	Reuse Transmission And Distrib.	101-375	McDowell & PC Utl Install	4/4/2004	4/10/2004	0.35	10.00%	\$29.45	160	\$87.47	\$72.53

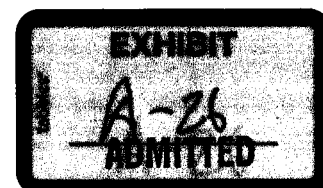
**RESIDENTIAL UTILITY CONSUMER OFFICE'S
RESPONSE TO LITCHFIELD PARK SERVICE COMPANY'S
FOURTH SET OF DATA REQUESTS**

Docket Nos. SW-01428A-09-0103 AND W-01427A-09-0104

- 4.4 On what basis does Ms. Rowell testify (Surrebuttal at 11-15) that LPSCO's effluent rates "are significantly too low"?

RESPONSE:

- 4.4. When compared to potable water rates currently being authorized by the ACC, LPSCO's current effluent rates are dramatically lower, even though both products have many of the same uses.



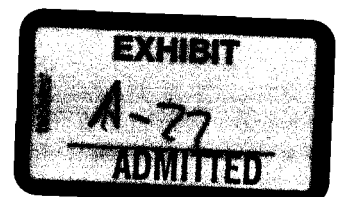
**RESIDENTIAL UTILITY CONSUMER OFFICE'S
RESPONSE TO LITCHFIELD PARK SERVICE COMPANY'S
FOURTH SET OF DATA REQUESTS**

Docket Nos. SW-01428A-09-0103 AND W-01427A-09-0104

- 4.1. Why is a 5-year amortization period for rate case expense "more appropriate in this rate case" as Ms. Rowell claims on p. 7-8 of her surrebuttal?

RESPONSE:

- 4.1. Since LPSCO has not been in for a rate case in almost nine years, Staff's recommendation that the amortization period for rate case expenses be five years instead of three as proposed in Direct Testimony was determined to be appropriate.



BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE) No. SW-01428A-09-0103
APPLICATION OF LITCHFIELD PARK)
SERVICE COMPANY, AN ARIZONA)
CORPORATION, FOR A)
DETERMINATION OF THE FAIR)
VALUE OF ITS UTILITY PLANTS)
AND PROPERTY AND FOR INCREASES)
IN ITS WATER AND WASTEWATER)
RATES AND CHARGES FOR UTILITY)
SERVICE BASED THEREON.)

IN THE MATTER OF THE) No. W-01427A-09-0104
APPLICATION OF LITCHFIELD PARK)
SERVICE COMPANY, AN ARIZONA)
CORPORATION, FOR A)
DETERMINATION OF THE FAIR)
VALUE OF ITS UTILITY PLANTS)
AND PROPERTY AND FOR INCREASES)
IN ITS WATER AND WASTEWATER)
RATES AND CHARGES FOR UTILITY)
SERVICE BASED THEREON.)

DEPOSITION OF MATTHEW ROWELL

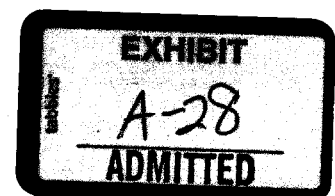
Phoenix, Arizona
November 30, 2009
9:15 a.m.

REPORTED BY:

CHRISTINE A. CHAMBERLAIN, RPR
Certified Reporter
Certificate No. 50741

PREPARED FOR:

ASCII/COPY



Page 2	Page 4
<p>1 INDEX</p> <p>2</p> <p>3 WITNESS PAGE</p> <p>4 MATTHEW ROWELL</p> <p>5 Examination by Mr. Wiley 4</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11 EXHIBITS</p> <p>12 Deposition</p> <p>13 Exhibits: Description Marked</p> <p>14 No. 1 Direct Testimony of Matthew Rowell 11</p> <p>15 on Behalf of the Residential Utility</p> <p>16 Consumer Office (19 pages)</p> <p>17 No. 2 Litchfield Park Sewer Company Water 55</p> <p>18 Reclamation Facilities Strategic</p> <p>19 Planning Evaluation Report (21 pages)</p> <p>20 No. 3 Palm Valley Water Reclamation 86</p> <p>21 Facility Phase I Design Report</p> <p>22 Prepared for Litchfield Park Service</p> <p>23 Company; prepared by PACE (127 pages)</p> <p>24 No. 4 Litchfield Park Service Company 135</p> <p>25 Docket Nos. SW-01428A-09-0103 and</p> <p>W-01427A-09-0104 Response to RUCO's</p> <p>Second Set of Data Requests (2 pages)</p> <p>No. 5 Corporate Cost Allocation Based on 138</p> <p>2008 Budget (1 page)</p>	<p>1 MATTHEW ROWELL,</p> <p>2 called as a witness herein, having been first duly sworn,</p> <p>3 was examined and testified as follows:</p> <p>4</p> <p>5 EXAMINATION</p> <p>6 BY MR. WILEY:</p> <p>7 Q. Good morning, Mr. Rowell.</p> <p>8 A. Good morning.</p> <p>9 Q. As you know, I'm Todd Wiley, and I'm here</p> <p>10 representing Litchfield Park Service Company, which we'll</p> <p>11 call LPSCO during the deposition today in its pending rate</p> <p>12 case.</p> <p>13 Please state your name for the record.</p> <p>14 A. Matthew Rowell.</p> <p>15 Q. And who are you employed by and what's your</p> <p>16 business address?</p> <p>17 A. I'm employed by Desert Mountain Analytical</p> <p>18 Services. It's 9808 South 45th Place in Phoenix.</p> <p>19 Q. And Desert Mountain Analytical Services is your</p> <p>20 own company which you and your wife own; is that correct?</p> <p>21 A. That's correct.</p> <p>22 Q. And your wife is Miss Sonn Rowell, who's also a</p> <p>23 witness for the Residential Utility Consumer's Office in</p> <p>24 this case, as well; correct?</p> <p>25 A. That's correct.</p>
Page 3	Page 5
<p>1 DEPOSITION OF MATTHEW ROWELL,</p> <p>2 was taken on November 30, 2009, commencing at 9:15 a.m., at</p> <p>3 the Law Offices of FENNEMORE CRAIG, P.C., 3003 North Central</p> <p>4 Avenue, Suite 2600, Phoenix, Arizona, 85012, before</p> <p>5 CHRISTINE A. CHAMBERLAIN, a Certified Reporter in the State</p> <p>6 of Arizona.</p> <p>7</p> <p>8 COUNSEL APPEARING:</p> <p>9 For Litchfield Park Service Company:</p> <p>10 FENNEMORE CRAIG, P.C.</p> <p>11 BY: Todd C. Wiley, Esq.</p> <p>12 3003 North Central Avenue</p> <p>13 Suite 2600</p> <p>14 Phoenix, Arizona 85012</p> <p>15 For RUCO:</p> <p>16 RESIDENTIAL UTILITY CONSUMER OFFICE</p> <p>17 BY: Michelle Wood, Esq.</p> <p>18 1110 West Washington Street</p> <p>19 Suite 220</p> <p>20 Phoenix, Arizona 85007</p> <p>21 ALSO PRESENT:</p> <p>22 Greg Sorensen</p> <p>23</p> <p>24</p> <p>25</p>	<p>1 Q. Okay. Have you had your deposition taken before?</p> <p>2 A. No, I have not.</p> <p>3 Q. This is your very first deposition?</p> <p>4 A. It's my first deposition, yes.</p> <p>5 Q. Okay. Just to be clear and to make it easy, the</p> <p>6 way the deposition works is question and answer, as I'm sure</p> <p>7 you are aware. It will be easier if you wait for me to</p> <p>8 finish my questions and if I wait for you to finish your</p> <p>9 answers; otherwise, we'll have a transcript that is</p> <p>10 difficult to read. So as we proceed forward today, let me</p> <p>11 finish my questions, and I will try to do the same to you;</p> <p>12 is that fair?</p> <p>13 A. That's fair.</p> <p>14 Q. Okay. Did you meet with anyone to prepare for</p> <p>15 the deposition today?</p> <p>16 A. Yes.</p> <p>17 Q. Who did you meet with?</p> <p>18 A. Miss Wood.</p> <p>19 Q. Okay. When did you meet with her?</p> <p>20 MS. WOOD: You know, this is getting -- this</p> <p>21 is attorney-client work product. When we meet, how often we</p> <p>22 meet is unimportant, and it's privileged.</p> <p>23 MR. WILEY: Michelle, he's an outside</p> <p>24 consultant. There's no privilege applicable to experts.</p> <p>25 None.</p>

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1 MS. WOOD: Well, I disagree with you. So go
2 ahead.
3 MR. WILEY: Well, you'd be wrong. So --
4 MS. WOOD: Well, call the judge if you feel
5 that I'm wrong.
6 MR. WILEY: Maybe we'll have to.
7 MS. WOOD: Go ahead.
8 MR. WILEY: Okay. I mean, this wouldn't be
9 the first time that you've taken positions that are
10 completely unsupported by the law. There is no work product
11 privilege that applies to a testifying expert. Okay? I
12 wasn't really frankly planning on getting into it too much,
13 but I'm entitled to know who he met with, what you discussed
14 today in preparation for the deposition, and what documents
15 you looked at. That is asked in every single expert
16 deposition taken.
17 MS. WOOD: You know, Todd, do what you feel
18 is appropriate, but he's not answering any questions about
19 our conversations.
20 MR. WILEY: Okay. We'll take it up with
21 Judge Nodes.
22 MS. WOOD: Thank you.
23 BY MR. WILEY:
24 Q. Okay. When did you meet with Miss Wood, Matt?
25 A. Friday.

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1 Q. Okay. Did you look at any documents in
2 preparation for the deposition today?
3 A. Yes.
4 Q. What documents did you look at?
5 A. They were RUCO's responses to the two sets of
6 LPSCO data requests. I believe we -- those I know we looked
7 at. We looked at other documents, but I don't -- honestly,
8 I can't recall exactly every document we looked at. I
9 believe we looked at the testimony that I wrote.
10 Q. Give me your best list of the documents you
11 looked at. All I really want to know, Matt, is what you
12 looked at. Literally, I'm not looking for every single
13 thing you've ever looked at. I want to know what you looked
14 at to prepare for the depo.
15 A. On Friday -- well, at a minimum, I know we looked
16 at the two DR responses from RUCO, and we looked at my
17 testimony. I don't recall any other documents.
18 Q. When you say, "the two DR responses," are you
19 talking about RUCO's responses to the second set of data
20 requests?
21 A. No. I'm talking about the first set of data
22 requests and the second set of data requests.
23 Q. Okay. So in other words, the first set was the
24 set of questions asking about your prior experiences and
25 testimony and other utility clients; correct?

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1 A. Yes, that's correct.
2 Q. And then, the second set were questions that were
3 geared towards the testimony you had submitted in the case;
4 correct?
5 A. I guess in general terms, that's correct, yes.
6 Q. Okay. And you looked at the two sets of data
7 requests and RUCO's responses, and then, you looked at your
8 direct testimony; is that fair?
9 A. That's fair.
10 Q. Is there anything else that you can recall
11 looking at?
12 A. No.
13 Q. Okay. And are you going to follow Miss Wood's
14 instructions and not answer any questions that I ask you
15 about what you and Miss Wood discussed on Friday?
16 A. I feel I have to follow Miss Wood's instructions.
17 Q. Are you represented by her as your personal
18 counsel?
19 A. No.
20 Q. Okay. And you're here as an expert witness for
21 RUCO in LPSCO's pending rate case; correct?
22 A. That's correct.
23 Q. And RUCO hired you as an outside testifying
24 consultant for the rate case; fair?
25 A. That's fair.

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1 Q. Okay. And you're not an employee of RUCO?
2 A. No.
3 Q. And you're not paid by RUCO, except for your
4 hourly fees incurred as an expert witness; agreed?
5 A. That's true.
6 Q. And you've been hired by RUCO as a testifying
7 consultant witness in this rate case; correct?
8 A. That's correct.
9 Q. You're not a consulting witness. You're actually
10 a testifying witness; agreed?
11 A. Agreed.
12 Q. Do you know the difference between a consulting
13 witness and a testifying expert?
14 A. I've never been asked that question before.
15 Q. Do you know the difference as we sit here?
16 A. No.
17 MR. WILEY: Okay. Okay. Michelle, is it
18 still your position that you're going to instruct him not to
19 answer questions about what you guys discussed on Friday?
20 MS. WOOD: If you have something you want me
21 to look at that demonstrates the legal position you're
22 taking, I'd be happy to look at it. I will profess I don't
23 do a huge number of the depositions because I practice
24 administrative law, and I think that would be true for
25 virtually everybody in the room.

3 (Pages 6 to 9)

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1 MR. WILEY: Okay.

2 MS. WOOD: So – but if you have something
3 for me to look at, I'd be happy to look at it.

4 MR. WILEY: Let me make a representation to
5 you, Michelle. Mr. Rowell is an outside testifying expert
6 witness. There is no work product or privilege that applies
7 to him. Okay? I wasn't planning on asking too much. I
8 just generally wanted to know what you guys discussed in
9 preparation for the deposition today.

10 I will also tell you that that's asked of
11 every expert witness that testifies in almost all civil
12 cases is you ask them who they met with, what they
13 discussed, what documents they reviewed.

14 MS. WOOD: I don't have a problem with you
15 asking him who he met with. I don't have a problem with you
16 asking what documents he reviewed to prepare for this. But
17 the words out of my mouth, I believe, are attorney-client
18 privilege, because he is retained by my client to provide
19 consultation and testimony.

20 MR. WILEY: Okay. So that's the basis for
21 your objection on the record; is that fair?

22 MS. WOOD: It is at this juncture. I will
23 look over anything that you have that demonstrates your
24 viewpoint and modify it if I review it and determine that it
25 needs to be done. So –

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1 MR. WILEY: Okay.

2 BY MR. WILEY:

3 Q. Mr. Rowell, you've submitted direct testimony on
4 behalf of RUCO in the rate case; correct?

5 A. Correct.

6 Q. Okay. Let me show you what I'll have the court
7 reporter mark as Exhibit 1.

8 (Deposition Exhibit No. 1 was marked for
9 identification.)

10 BY MR. WILEY:

11 Q. Looking at Exhibit No. 1, Mr. Rowell, Exhibit
12 No. 1 is your direct testimony submitted on your behalf for
13 RUCO in the rate case; correct?

14 A. It does appear to be, yes.

15 Q. Okay. And you've essentially been asked to
16 submit testimony on two issues in the rate case, the first
17 issue being design and construction problems at the Palm
18 Valley Water Reclamation Plant; correct?

19 A. I don't know if that's technically correct, no.

20 Q. Okay. What's not correct about that?

21 A. You said I've been asked, and I don't think –

22 Q. Okay. Let me rephrase that, then.

23 Essentially, you've submitted direct
24 testimony on two issues in the rate case, the first issue
25 being design and construction problems at the Palm Valley

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1 Plant; correct?

2 A. That's correct.

3 Q. And the second issue is opinions regarding the
4 allocation of affiliate operating expenses and costs to
5 LPSCO; correct?

6 A. I believe there's more than just opinions, but
7 correct.

8 Q. Okay. And those are the only two issues raised
9 in your direct testimony in terms of specific opinions or
10 testimony from you; correct?

11 A. That's correct.

12 Q. Mr. Rowell, you're an economist by training;
13 correct?

14 A. That's correct.

15 Q. You're not a licensed contractor; agreed?

16 A. Agreed.

17 Q. Okay. You've never constructed a wastewater
18 treatment plant; correct?

19 A. Correct.

20 Q. And you've never operated or worked at a
21 wastewater treatment plant; correct?

22 A. That's correct.

23 Q. Okay. And you're not certified as a qualified
24 operator for a treatment plant; agreed?

25 A. Agreed.

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1 Q. You also haven't actually visited or inspected
2 the Palm Valley Plant that's owned and operated by LPSCO;
3 correct?

4 A. That's correct.

5 Q. And you're not a registered engineer; correct?

6 A. That's correct.

7 Q. And you've never, in fact, engineered or designed
8 a wastewater treatment plant; correct?

9 A. That's correct.

10 Q. Okay. Have you ever actually looked at any
11 engineering plans for a wastewater treatment plant?

12 A. Not that I recall, no.

13 Q. And you didn't look at the engineering plans for
14 the Palm Valley Plant as it was originally constructed in
15 2003; correct?

16 A. That's correct.

17 Q. And you didn't look at any of the engineering
18 plans for the 2008 upgrades that were installed at the Palm
19 Valley Plant in 2008; agreed?

20 A. Agreed.

21 Q. Okay. Mr. Rowell, given that you're not a
22 certified engineer, you're not a licensed contractor and
23 you're not a certified operator, wouldn't you agree with me
24 that you don't have any qualifications to give opinions
25 regarding design errors at the Palm Valley Plant?

4 (Pages 10 to 13)

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1 A. I don't believe I've offered any independent
2 opinions about design errors at the Palm Valley Plant.
3 Q. Okay. What have you offered with respect to
4 design errors at the Palm Valley Plant if you haven't
5 offered independent opinions?
6 A. Regarding the design errors, I've merely taken
7 the opinions expressed by Mr. Sorensen in his testimony.
8 Q. So in other words, all you've done is basically
9 repeat Mr. Sorensen's testimony on what you view as design
10 errors at the plant; agreed?
11 A. That, along with reading the -- I think the MES
12 report on those issues.
13 Q. So in other words, Mr. Rowell -- and correct me
14 if I'm wrong here -- but essentially what you're saying is
15 that all you've done in your testimony on the design and
16 construction errors is restate Mr. Sorensen's testimony and
17 restate the statements from the McBride Engineering Report;
18 fair?
19 A. That's fair.
20 Q. Okay. And you haven't formed any independent
21 opinions of your own with respect to any design or
22 construction problems at the plant; agreed?
23 A. That's true, yes.
24 Q. And, in fact, you wouldn't have any
25 qualifications to render any opinions about design or

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1 construction problems at the plant; agreed?
2 A. Agreed, yes.
3 Q. And that's because you're an accountant and not a
4 contractor, engineer or operator of a wastewater treatment
5 plant; fair?
6 A. That's fair enough, yes.
7 Q. Okay. In your testimony you raise issues about
8 design -- alleged design and construction problems at the
9 plant. Tell me specifically on what basis you are giving
10 testimony about the design and construction problems at the
11 plant.
12 A. I don't understand what you mean by "basis."
13 Q. Let me rephrase it this way. What are you
14 relying on in giving your opinions about the design and
15 construction problems at the plant?
16 A. Again, I don't believe I've given my opinions
17 about the design and construction errors at the plant.
18 Q. Do you have any opinions about the design and
19 construction errors at the plant?
20 A. Well, the evidence that I've reviewed indicates
21 that there are design and construction problems at the
22 plant.
23 Q. Okay. What design and construction problems are
24 there at the plant? Tell me specifically.
25 A. I'd need a copy of the McBride report to -- I

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1 don't remember the details off the top of my head.
2 Q. Would it be fair to say that the only things
3 you're relying on for your opinions about the design and
4 construction problems at the plant are Mr. Sorensen's
5 testimony and the McBride report; correct?
6 A. That's fair, yes.
7 Q. And you already answered that --
8 A. I believe I did.
9 Q. -- correct?
10 A. Yes.
11 Q. Okay. Remember to let me finish or we'll --
12 A. Sorry.
13 Q. -- talk over one another. You did it right
14 there, too.
15 If Mr. Sorensen, in his rebuttal testimony,
16 comes back and clarifies what he was saying about the design
17 and construction problems at the plant, you would have to
18 agree with what he restates on rebuttal testimony; agreed?
19 MS. WOOD: Objection. Speculation. We don't
20 know what he's going to say, and we don't know whether or
21 not we would agree with that.
22 BY MR. WILEY:
23 Q. If -- well, go ahead and answer the question.
24 A. I can't speculate on -- you know, without
25 actually seeing the testimony, I can't answer that question.

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1 Q. If, on his rebuttal testimony, Mr. Sorensen
2 testifies that there were no design errors at the plant and
3 the 2000 in upgrades (sic) were related to additional
4 modifications and upgrades to the plant, you would have to
5 agree with Mr. Sorensen's testimony; wouldn't you?
6 MS. WOOD: Objection. Speculation. Go ahead
7 and answer if you can.
8 THE WITNESS: Well, that would put us all in
9 a very odd position because I believe his direct testimony
10 indicates there were. So if his rebuttal testimony
11 indicates that there weren't --
12 BY MR. WILEY:
13 Q. Do you have Mr. Sorensen's direct testimony with
14 you?
15 A. No, I don't.
16 MS. WOOD: Do you? Okay. I don't. Thank
17 you.
18 BY MR. WILEY:
19 Q. Okay. Mr. Rowell, you just mentioned something
20 about Mr. Sorensen's testimony. I've provided you with a
21 copy of the direct testimony of Greg Sorensen dated March 6,
22 2009; correct?
23 A. That's correct.
24 Q. And this is the testimony that you reviewed in
25 preparing your direct testimony in this case; correct?

5 (Pages 14 to 17)

Page 18

1 A. That's correct.
 2 Q. Okay. Show me in this testimony where
 3 Mr. Sorensen says that there were design errors at the Palm
 4 Valley Plant.
 5 A. Give me a minute. Actually, I might just -- I
 6 believe the page number reference is in my testimony, so --
 7 Q. Page 7, if it helps, I think.
 8 A. I thought there was a page number referenced in
 9 my testimony.
 10 MS. WOOD: Are you talking about page 7 of
 11 Sorensen's testimony or are you talking about page 7 of
 12 Mr. Rowell's testimony?
 13 MR. WILEY: Take that off.
 14 All I was saying, Michelle, I'm talking about
 15 Sorensen's testimony, but I was just referencing the page 7
 16 to make things go faster.
 17 MS. WOOD: Okay.
 18 MR. WILEY: You don't need to put that on.
 19 THE REPORTER: None of this right here?
 20 MR. WILEY: Well, unless Michelle wants it on
 21 there. I --
 22 MS. WOOD: I think the record should be what
 23 the record is.
 24 MR. WILEY: Typically, what happens is on
 25 procedural stuff like that, you take it off the record,

Page 19

1 Michelle, and you just simply --
 2 MS. WOOD: Your experience is different than
 3 mine.
 4 MR. WILEY: Okay.
 5 MS. WOOD: You can do whatever you feel
 6 comfortable with. It's just, like you said, a procedural
 7 thing.
 8 BY MR. WILEY:
 9 Q. Mr. Rowell, let me restate the question for you.
 10 Show me in Mr. Sorensen's direct testimony
 11 where he testified that there were design errors at the Palm
 12 Valley Plant as it was originally constructed in 2003.
 13 A. I'm looking for it.
 14 Q. Let me rephrase that. As it was constructed in
 15 2001 and 2002.
 16 A. On page 7 of Mr. Sorensen's testimony, lines 13
 17 through 16.
 18 Q. Okay. And on lines 13 through 16, what
 19 Mr. Sorensen said in his direct testimony was, quote:
 20 Additionally, in the summer of 2007,
 21 the plant had two spill events that
 22 confirmed that the plant, as originally
 23 designed and constructed by our
 24 predecessor owners, was lacking certain
 25 redundancy capabilities and needed some

Page 20

1 upgrades to achieve an acceptable level
 2 of reliability, end quote.
 3 Is that correct?
 4 A. That's correct.
 5 Q. Okay. So what you did here is you read that
 6 sentence, and you concluded, based on that sentence, that
 7 there was design errors in the original plant; is that fair?
 8 A. Based on that sentence and the McBride
 9 Engineering report.
 10 Q. If Mr. Sorensen, in his rebuttal testimony, comes
 11 back and clarifies that what he meant by that sentence was
 12 not that there were design errors in the plant, but that
 13 there were change conditions that necessitated upgrades and
 14 modifications to the plant, you would have to defer to
 15 Mr. Sorensen on that issue; agreed?
 16 MS. WOOD: I already objected as to
 17 speculation.
 18 BY MR. WILEY:
 19 Q. Agreed?
 20 A. Not necessarily. I mean, it would depend on
 21 the -- it would depend on the explanation of these changed
 22 circumstances.
 23 Q. You've relied on Mr. Sorensen's testimony in
 24 submitting your opinions on design and construction
 25 problems; agreed?

Page 21

1 MS. WOOD: Objection. Asked and answered.
 2 He already said he relied on Sorensen's testimony and
 3 Mr. McBride's -- or McBride's engineering report.
 4 BY MR. WILEY:
 5 Q. Go ahead and answer.
 6 A. I've relied on Mr. Sorensen's testimony and the
 7 McBride Engineering report.
 8 Q. Okay. And you didn't make any independent
 9 investigation of whether there were actually any design
 10 errors in the plant; agreed?
 11 A. Agreed.
 12 Q. You didn't consult any engineers; fair?
 13 A. Fair.
 14 Q. You didn't consult Mr. Sorensen or McBride as to
 15 what they meant in their testimony or the McBride report;
 16 agreed?
 17 A. That's true.
 18 Q. Okay. You simply read the testimony and
 19 concluded on your own that there were design errors in the
 20 original plant as constructed; agreed?
 21 A. No.
 22 Q. Okay. Well, what else did you do?
 23 A. I looked at the McBride Engineering report.
 24 Q. Okay. So what you did is you simply read
 25 Mr. Sorensen's direct testimony and the McBride Engineering

6 (Pages 18 to 21)

Page 22

1 report, and based upon your read of those documents, you
 2 concluded there were design errors at the plant?
 3 A. That's correct.
 4 Q. And that's all you've done in this case with
 5 respect to verifying and investigating design errors at the
 6 plant; agreed?
 7 A. Agreed.
 8 Q. Does a qualified expert witness typically rely on
 9 such statements without an independent analysis in issuing
 10 testimony on design or construction problems at a sewer
 11 plant?
 12 A. I'm sorry. Can you repeat the question?
 13 Q. Is that type of analysis typically something that
 14 a qualified expert witness does in rendering opinions about
 15 design and construction problems at a sewer plant?
 16 A. Typically, you examine the documents provided by
 17 the company and make judgments based on that.
 18 Q. Have you ever before this case given opinions
 19 about design and construction problems at any type of
 20 utility facility?
 21 A. Not that I recall.
 22 Q. Okay. What type of treatment process does the
 23 plant use?
 24 A. I don't recall.
 25 Q. When was it constructed?

Page 23

1 A. It went into service, I believe, in '01 or '02.
 2 Q. Who built the plant?
 3 A. I don't know who actually built the plant. It
 4 was built under the direction of the previous owner, which
 5 was SunCor.
 6 Q. Can you name the contractor that built the plant?
 7 A. No, not off the top of my head.
 8 Q. Who designed the original plant?
 9 A. I don't recall.
 10 Q. Did you review the original Phase I design report
 11 provided by Pacific Advance Civil Engineering for the Palm
 12 Valley Plant?
 13 A. I don't believe so.
 14 Q. So in other words, you are giving testimony about
 15 design and construction problems with the plant, but you
 16 didn't actually review the original design and engineering
 17 report for the plant; agreed?
 18 A. Agreed.
 19 Q. Did you contact the original general contractor?
 20 A. No.
 21 Q. Did you contact PACE Engineering?
 22 A. No.
 23 Q. And I asked you this question before, but I want
 24 to ask it again. What specifically are the design errors at
 25 the plant that you believe existed?

Page 24

1 A. You know, there are several of them detailed in
 2 the McBride Engineering report. But sitting here, off the
 3 top of my head, I can't recall them.
 4 Q. How was the plant originally configured and
 5 designed as it was constructed in 2001 and 2002?
 6 A. I'm not sure what you're asking.
 7 Q. What types of facilities were installed at the
 8 plant as it was originally constructed?
 9 A. You know, there were a lot of different types of
 10 facilities installed at the plant. I'm not --
 11 Q. What type of reactors did it have?
 12 A. I don't recall the details of the -- of what was
 13 there.
 14 Q. What was the original odor control system?
 15 A. I don't recall.
 16 Q. Did it have back flushing?
 17 A. I don't recall.
 18 Q. What type of treatment process were used at the
 19 plant as originally constructed?
 20 A. I don't recall.
 21 Q. What engineering standards applied to the Palm
 22 Valley Plant when it was originally constructed?
 23 A. I don't know.
 24 Q. Do you agree that the plant as originally
 25 designed and constructed met all engineering, design and

Page 25

1 construction standards applicable to wastewater treatment
 2 plants? Do you agree with that?
 3 A. I have no reason to believe otherwise.
 4 Q. So you would agree with that; correct?
 5 A. I have no reason to believe otherwise.
 6 Q. Okay. But you're averting my question, Matt. Do
 7 you agree that the plant as originally constructed met all
 8 applicable engineering, construction and design standards
 9 applicable to wastewater treatment plants; yes or no?
 10 MS. WOOD: I think I'm going to object. Lack
 11 of foundation. You've already asked him whether or not he
 12 has any engineering background. He said he doesn't. So I'm
 13 not quite sure why you would think he would have the
 14 capacity to give an opinion about meeting engineering
 15 standards when he doesn't have that background.
 16 BY MR. WILEY:
 17 Q. I guess I would agree with Miss Wood in the sense
 18 that she just said that you have no foundation and
 19 qualifications to give opinions about design and
 20 construction standards. But answer the question. Yes or
 21 no?
 22 A. Well, my answer would be, I don't know.
 23 Q. You understand that the plant as originally
 24 designed and constructed was reviewed by the Arizona
 25 Department of Environmental Quality and the Maricopa County

7 (Pages 22 to 25)

Page 26

1 Environmental Services Department; correct?
 2 A. That's correct.
 3 Q. And both of those entities reviewed the
 4 engineering and the as-built construction of the plant;
 5 agreed?
 6 A. That's typical, yes.
 7 Q. Okay. And both of those entities approved the
 8 plant as designed and constructed; correct?
 9 A. I have no reason to believe they didn't.
 10 Q. That's your understanding; isn't it?
 11 A. That's my understanding. I haven't, you know,
 12 actually reviewed documents from those two entities to
 13 verify that. But by virtue of the fact that the plant
 14 operates or was operating at the time, then, yes.
 15 Q. And you also understand and agree that the
 16 Aquifer Protection Permit was reviewed and issued by ADEQ;
 17 correct?
 18 A. That's correct, yes.
 19 Q. Okay. And I think we talked over one another, so
 20 let me finish my question so we have a clear transcript.
 21 You agree that DEQ and Maricopa County
 22 reviewed and approved the plant's engineering and
 23 construction as it was originally built; correct? Yes or
 24 no?
 25 MS. WOOD: I think he's already -- you've

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1 already asked, he's already answered that, and he says he
 2 has not reviewed those documents, but he doesn't have a
 3 reason to question it.
 4 BY MR. WILEY:
 5 Q. Yes or no, Matt?
 6 A. Yes.
 7 Q. And DEQ and Maricopa County typically conducts a
 8 review of the engineering and designs for a plant; agreed?
 9 A. Agreed.
 10 Q. You agree that the plant as originally
 11 constructed is used and useful for utility purposes; fair?
 12 A. That's fair, yes.
 13 Q. And you also agree that the 2008 upgrades that
 14 were installed by LPSCO are used and useful; correct?
 15 A. As far as we can tell, yes.
 16 Q. Okay. And your issue is that your -- in your
 17 testimony you raise some issues about potentially excessive
 18 or duplicative costs related to the 2008 upgrades; correct?
 19 A. Well, I don't think that's a fair
 20 characterization of my testimony, no.
 21 Q. Okay. So tell me what is a fair
 22 characterization, then.
 23 Let me ask it to you this way, then,
 24 Mr. Rowell. What is your testimony about the design and
 25 construction problems at the plant?

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1 A. My testimony is that the design and construction
 2 problems existed, and they necessitated significant upgrades
 3 during the test year, and that there's a fairness issue
 4 regarding whether the customers of the company should be
 5 required to pay 100 percent of the cost of the upgrades that
 6 were necessitated by the design and construction problems.
 7 Q. Why is there a fairness issue with that?
 8 A. Because utilities have an obligation to build a
 9 plant that -- to build a plant that doesn't lead to
 10 excessive costs in the future. In other words, I mean, to
 11 put it bluntly, you know, the plant should have been built
 12 correctly in the first place. Had the plant been built
 13 correctly in the first place, these test year additions
 14 would not have been necessary.
 15 Q. Tell me specifically, Mr. Rowell, on what basis
 16 do you think the plant was not built sufficiently in the
 17 first place? What engineering standards were violated?
 18 MS. WOOD: I think that's already --
 19 objection. Asked and answered.
 20 BY MR. WILEY:
 21 Q. Go ahead and answer, Matt.
 22 A. What engineering standards? I don't know if
 23 any -- I mean, well, I'm not sure exactly what you mean by
 24 "standards" or by "engineering standards," so --
 25 Q. Well, you told me that you think the plant should

Page 29

1 have been built a different way in 2001 and 2002; correct?
 2 Isn't that what you're saying?
 3 A. Based on my reading of the McBride Engineering
 4 report and Mr. Sorensen's testimony.
 5 Q. And yet, the plant as originally constructed met
 6 all applicable engineering, design and construction
 7 standards; agreed?
 8 A. Well, I don't know if it met all applicable
 9 standards. It met the standards -- it met ADEQ and the
 10 County's standards, that's -- I'll agree with it.
 11 Q. Did it meet the MAG guidelines on construction of
 12 public works projects?
 13 A. (No audible response.)
 14 Q. Don't look at her. The question's to you,
 15 Mr. Rowell.
 16 MS. WOOD: I think he was looking to me
 17 because I was going to proffer up an objection. One, he's
 18 already answered all of these questions; and two, you
 19 haven't demonstrated that he has the foundation for this
 20 particular question.
 21 MR. WILEY: If you will stipulate, Michelle,
 22 that Mr. Rowell does not have the foundations and
 23 qualifications to give testimony about the design and
 24 construction problems at the plant, I won't ask anymore
 25 questions on this.

8 (Pages 26 to 29)

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1 MS. WOOD: We've never alleged that he did,
2 Mr. Wiley. What we've said is based on Mr. Sorensen's
3 testimony and the opinions of your own engineers, which we
4 would assume the client — your client hired somebody who
5 was qualified and did know the standards. And if they
6 profess that this facility does not meet the standards,
7 then, we don't see any reason why Mr. Rowell can't rely on
8 that opinion.

9 So he's not professing to have an independent
10 opinion. He's already told you he relied on the opinion of
11 Mr. Sorensen and McBride Engineering.

12 BY MR. WILEY:

13 Q. Mr. Rowell, let me ask it to you this way. You
14 said before that, essentially, the basis for your testimony
15 on the design and construction problems is that you reviewed
16 Mr. Sorensen's testimony and the McBride report, and that's
17 all you've done; correct?

18 A. The review of those two documents is what my
19 recommendation is based on.

20 Q. Don't those documents speak for themselves?

21 A. Well, yes, I believe they do.

22 Q. So why do we need your testimony on those issues
23 when either the judge or the commissioners can simply read
24 Mr. Sorensen's testimony and McBride's Engineering report?

25 A. Well, my testimony goes to the — you know, the

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1 ratemaking treatment that, you know, is appropriate based on
2 Mr. Sorensen's testimony and the McBride Engineering report.

3 Q. And what you've done in assessing the ratemaking
4 treatment is you've assumed there were design and
5 construction problems at the plant; correct?

6 A. I don't believe "assume" is the correct word.

7 Q. What's the correct word, then?

8 A. Well, as you said, the testimony and the McBride
9 Engineering report speak for themselves. My reading of
10 those two documents is that there were design and
11 engineering problems at the plant. Or design and
12 construction.

13 Q. Do you agree that the decision to build the 2008
14 upgrades at the plant was a prudent decision?

15 MS. WOOD: Objection. Lack of foundation.

16 You haven't demonstrated that he has anything upon which to
17 base that opinion.

18 BY MR. WILEY:

19 Q. Answer the question.

20 A. I didn't review those decisions from a prudence
21 perspective.

22 Q. You understand that Algonquin — I'll use
23 Algonquin instead of Liberty Water, because the documents
24 reference Algonquin.

25 You understand that Algonquin acquired LPSCO

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1 and the Palm Valley Plant after the plant already had been
2 designed and constructed by the prior owner of LPSCO; fair?

3 A. Yes.

4 Q. Okay. And according to Mr. Sorensen's direct
5 testimony, there were two spill events that occurred in
6 2007; correct?

7 A. I believe so. I don't remember the exact date of
8 the spill events, but —

9 Q. Did you investigate the cause of those 2007
10 spills at the plant?

11 A. No, I did not.

12 Q. Do you know whether they were caused by design
13 problems at the plant or operational issues at the plant?

14 A. I can't say, no.

15 Q. Do you know who Pacific Advance Civil Engineering
16 is?

17 A. They're an engineering firm that's done some work
18 for LPSCO.

19 Q. Would you agree that they're a qualified and
20 reputable engineering firm?

21 A. I have no reason to believe otherwise.

22 Q. Are you aware of any notices of violation
23 regarding the Palm Valley Plant?

24 A. No, I'm not.

25 Q. Okay. To summarize, Mr. Rowell, you're not a

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1 qualified engineer or contractor?

2 MS. WOOD: Objection. Asked and answered.

3 BY MR. WILEY:

4 Q. You've never inspected the Palm Valley Plant,
5 you've never reviewed the original designs or plans for the
6 Palm Valley Plant, and you've never operated a wastewater
7 treatment plant; correct?

8 MS. WOOD: Objection. Asked and answered at
9 least three or four times.

10 BY MR. WILEY:

11 Q. Correct?

12 MS. WOOD: If you continue to go this way
13 with repeated questions, we're going to assume it's for the
14 purposes of harassment, and we're going to leave.

15 BY MR. WILEY:

16 Q. Correct?

17 A. That's correct, yes.

18 Q. Okay. You also don't know exactly what design
19 errors, if any, existed at the Palm Valley Plant as
20 originally designed and built; fair?

21 MS. WOOD: Objection. Asked and answered.

22 THE WITNESS: Sitting here today, I can't
23 recite them off the top of my head, but they are outlined in
24 the McBride Engineering report.

25 ///

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1 BY MR. WILEY:

2 Q. Okay. What upgrades did LPSCO install at the
3 plant in 2008?

4 A. Again, sitting here today, I can't list off every
5 upgrade they installed in 2008.

6 Q. Okay. Tell me specifically which of those
7 upgrades resulted in excessive or duplicative costs to the
8 ratepayers.

9 A. It's not any one particular upgrade in particular
10 that's an issue from a ratemaking perspective here.

11 Q. Why not?

12 A. Well --

13 Q. Let me ask it this way, Mr. Rowell. How can you
14 make recommendations on reduction from a rate base for
15 design errors without analyzing what specific design errors
16 were at the plant and how much those design errors cost?

17 A. I've relied on Mr. Sorensen's testimony.
18 Mr. Sorensen testifies that \$7 million worth of improvements
19 were necessitated by the design errors.

20 Q. Okay.

21 A. So we have a \$7 million number. I don't know
22 that any additional analysis is necessary.

23 Q. Of those \$7 million in upgrades, which of the
24 items included in that \$7 million were the result of design
25 errors at the plant?

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1 A. I interpret Mr. Sorensen's testimony to indicate
2 that all of them were.

3 Q. Okay. And again, if Mr. Sorensen clarifies on
4 rebuttal that that's not what he was saying in his
5 testimony, you would have to defer to Mr. Sorensen; agreed?

6 MS. WOOD: Objection. Speculation. Answer
7 it if you can.

8 THE WITNESS: Well, yeah. I mean, it's a
9 difficult question to answer without seeing, you know, this
10 potential future testimony. But I'll say, it's certainly
11 appropriate to keep an open mind. I mean, with any issue in
12 a case like this, you read the rebuttal; and if the rebuttal
13 is persuasive, you can change your recommendations.

14 BY MR. WILEY:

15 Q. I guess where I'm getting at, Mr. Rowell, is you
16 haven't done any independent investigation of your own
17 regarding the design and construction issues; correct?

18 MS. WOOD: Objection. Asked and answered.
19 (Interruption in the proceeding.)

20 BY MR. WILEY:

21 Q. We've already established that; correct?

22 A. That's correct.

23 Q. So if you're relying on Mr. Sorensen's direct
24 testimony in providing your opinions, you would also have to
25 rely on his rebuttal testimony; agreed?

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1 A. Excuse me. I'm turning it off.

2 Q. That's okay. Put it on silence.

3 MS. WOOD: Can you repeat the question
4 because he was distracted?

5 MR. WILEY: Do you want to reread the
6 question?

7 (Record read: Page 35, lines 23 through
8 25.)

9 MS. WOOD: Objection. Speculation.

10 THE WITNESS: Well, again, I'm not relying
11 exclusively on Mr. Sorensen's testimony. There is the
12 McBride Engineering report.

13 BY MR. WILEY:

14 Q. Okay.

15 A. But yes, we'd have to take Mr. Sorensen's
16 rebuttal into account when we decide what position to take
17 in our -- is it our surrebuttal or is it our rebuttal?

18 MS. WOOD: Surrebuttal.

19 THE WITNESS: Surrebuttal. In other words,
20 you know, of course I'm not going to ignore Mr. Sorensen's
21 testimony -- Mr. Sorensen's rebuttal testimony.

22 BY MR. WILEY:

23 Q. How much would those 2008 upgrades have cost if
24 they were put in with the original plant in 2001 and 2002?

25 A. We don't know that.

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1 Q. Have you attempted to investigate what those
2 upgrades would have cost had they been installed in 2001 and
3 2002?

4 A. No.

5 Q. If they would have cost roughly the same in 2001
6 and 2002 as they did in 2008, you would agree that there's
7 no harm to ratepayers; fair?

8 A. No.

9 Q. Why not?

10 A. Depreciation.

11 Q. Okay. Explain what you mean by "depreciation."

12 A. The plant would have depreciated between the
13 '01-'02 time frame and the test year.

14 Q. Okay. So how would that have harmed customers?

15 A. Well, the depreciation would have benefited
16 customers.

17 Q. Okay.

18 A. Let's put it that way. The rate base would have
19 reduced.

20 Q. Can you give me an idea of how much \$7 million in
21 upgrades installed in 2001 and 2002 would have depreciated
22 through 2008?

23 MS. WOOD: Objection. It's speculation.

24 He'd have to know what the nature of those improvements were
25 to tell the depreciation rates. Do you have them?

10 (Pages 34 to 37)

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1 MR. WILEY: He's the one testifying about the
2 2008 upgrades, Michelle.
3 MS. WOOD: You can answer if you can.
4 BY MR. WILEY:
5 Q. You just testified, Mr. Rowell, that you believe
6 customers were harmed because they didn't get the benefit of
7 the depreciation; correct?
8 A. No.
9 Q. Okay. Well, what were you saying, then?
10 A. I was saying based on your, you know, your
11 counterfactual example, they would have been -- they would
12 have been -- well, repeat the question. I'm sorry.
13 Q. Okay. Let's back it up a minute. You said
14 earlier that you don't know how much the 2008 upgrades would
15 have cost had they been put in with the original plant in
16 2002; correct?
17 A. That's true.
18 Q. Okay. If they had been put in in 2002,
19 ratepayers would still have had to pay the costs of those
20 upgrades as installed with the original plant; agreed?
21 A. Well, I mean, this might be nitpicking, but if
22 they were installed with the original plant, I don't believe
23 we could refer to them as upgrades.
24 Q. Fair enough. But what I'm saying, if they --
25 A. But I understand your question, but --

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1 Q. Okay. Based upon what you just said, if the
2 upgrades were included in the original plant construction,
3 the plant would be included in rate base in its entirety;
4 fair?
5 A. That's fair, yes.
6 Q. Okay.
7 A. Well, minus depreciation.
8 Q. So what harm have ratepayers incurred by
9 including the \$7 million in upgrades in 2008 instead of 2001
10 and 2002?
11 A. Well, at a minimum, there's a depreciation over
12 the intervening years. And as you've pointed out, we don't
13 know that these design changes that -- you know, had they
14 taken place in the '01-'02 time frame, we don't know that
15 they would have cost \$7 million. So potentially, there
16 could have been -- you know, potentially, it could have been
17 less expensive in '01-'02 than 7 million. So whatever the
18 difference there is.
19 Q. And you haven't investigated what the cost
20 difference would have been; correct?
21 A. No.
22 Q. Okay.
23 A. Well, yes, it is correct.
24 Q. Right. And can you tell me specifically how
25 ratepayers would have benefited by depreciation had those

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1 upgrades been included with the original plant?
2 A. Sitting here today, I can't calculate the
3 depreciation expense. Or not expense, but the depreciations
4 that would have been incurred over those years.
5 Q. So as we sit here today, you can't tell me
6 whether customers would have been harmed by depreciation or
7 not; fair?
8 A. Oh, no. That's not fair. There definitely would
9 be depreciation.
10 Q. Okay. So tell me what harm the customers would
11 have incurred in that situation.
12 A. And again, which situation are we talking about?
13 Q. If we assume the upgrades were included with the
14 original plant in 2002, what harm would customers have
15 incurred with respect to depreciation as opposed to
16 including the upgrades in 2008?
17 A. I think there's a fundamental misunderstanding
18 here. There would be no harm resulting from depreciation.
19 The depreciation would be a benefit to the customers.
20 Q. Okay. What benefit specifically would
21 depreciation have given to the ratepayers had those upgrades
22 been included in the original plant?
23 A. I haven't calculated that number.
24 Q. Based upon your experience as a rate analyst
25 (sic), can you give me an idea of how much benefit would

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1 have been provided to ratepayers in terms of dollars had the
2 \$7 million in upgrades been included in 2002 --
3 MS. WOOD: Objection. Speculation.
4 BY MR. WILEY:
5 Q. -- with the original plant?
6 MS. WOOD: Objection. Speculation. I'm
7 sorry. I didn't mean to interrupt your question.
8 THE WITNESS: You know, to produce a
9 calculation like that, it would take some time. It's not
10 something I could, you know -- I can't sit here and do that
11 math.
12 BY MR. WILEY:
13 Q. Can you give me a ballpark --
14 A. No.
15 Q. -- based upon your -- let me finish the question.
16 A. I'm sorry. I thought you were finished.
17 Q. Can you give me a general ballpark of a dollar
18 amount that would have benefited ratepayers for depreciation
19 had the \$7 million in upgrades been included in the original
20 plant?
21 A. No. Again, sitting here today, I'd really just
22 be guessing on what the appropriate depreciation rates are.
23 Q. And you agree, as a consulting testifying
24 witness, you don't want to guess; fair?
25 A. Fair.

11 (Pages 38 to 41)

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1 Q. Okay. Now, in your testimony, you recommended a
2 reduction in rate base of \$3.5 million for the design and
3 construction errors; correct?
4 A. That's correct.
5 Q. Okay. How did you come up with the \$3.5 million
6 number?
7 A. I divided seven million by two.
8 Q. Okay. And why did you do that?
9 A. Well, we could have recommended a \$7 million
10 disallowance; but again, based on the fact that the company
11 did buy the plant from a previous owner, you know, honestly,
12 it was just some compassion for the company, recognizing
13 their situation.
14 Q. Whose idea was it to deduct \$3.5 million from
15 LPSCO's rate base for the design and construction issues?
16 A. That was my idea.
17 Q. Okay. Did you discuss that with anybody at RUCO?
18 A. Oh, yes.
19 Q. Okay. Who did you discuss that with at RUCO?
20 MS. WOOD: Just a minute.
21 BY MR. WILEY:
22 Q. It doesn't have to be with Michelle. Who at
23 RUCO -- did you discuss that with Mr. Rigsby, Miss Jerich,
24 anybody like that?
25 A. Well, using the term "discussion" broadly, I'd

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1 say, at a minimum, there was Mr. Rigsby. I mean, let me
2 give a complete answer and say, a lot of our communication
3 was through e-mail, through, you know, drafts of testimony.
4 Q. Did you perform any specific calculation for the
5 \$3.5 million with respect to whether any upgrades installed
6 in 2008 caused ratepayers to incur any additional costs?
7 A. (No audible answer.)
8 Q. Do you understand the question?
9 A. No. The question doesn't --
10 Q. Okay. Let me try it this way. You've deducted
11 \$3.5 million from LPSCO's rate base; correct?
12 A. I'm recommending that adjustment.
13 Q. Yeah. And your recommendation is based on simply
14 taking half of the \$7 million in upgrades; correct?
15 A. That's correct.
16 Q. But you didn't perform any analysis of whether
17 ratepayers incurred \$3.5 million in additional costs because
18 the rate -- because the upgrades were put in place in 2008
19 instead of 2002; agreed?
20 A. Well, as of today, the ratepayers have not
21 incurred any additional costs.
22 Q. Agreed. I agree with that.
23 A. What we're talking about here is the costs the
24 ratepayers will incur pending the conclusion of the rate
25 case.

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1 Q. But you said earlier that the ratepayers would
2 have been paying those costs if those upgrades were
3 installed with the original plant because they would have
4 been included in rate base with the original plant; correct?
5 A. Oh, no, I did not. If I said that, I was mis --
6 I was not speaking correctly.
7 Q. Have you discussed your direct testimony in this
8 case with anybody for Global Water?
9 A. Absolutely not.
10 Q. What documents or data support your \$3.5 million
11 reduction in LPSCO's rate base?
12 A. The same documents we've been discussing, you
13 know, all morning.
14 Q. Are there any other documents that you've relied
15 on with respect to your \$3.5 million reduction in rate base?
16 A. No, there aren't.
17 MS. WOOD: Todd, is now a time where we could
18 take a break?
19 MR. WILEY: You can take a break if you want.
20 MS. WOOD: Is that okay?
21 MR. WILEY: Sure.
22 (Recess taken, 10:07 - 10:13.)
23 BY MR. WILEY:
24 Q. Mr. Rowell, let me ask you this. If LPSCO or any
25 utility were only allowed to put 50 percent of the 2000 in

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1 upgrades (sic) in a rate base, why would a utility ever
2 upgrade a facility?
3 A. Well, first, I'll say that my recommendation is
4 not that 50 percent of all the upgrades made in the test
5 year be disallowed. Just the 7 -- just 50 percent of the
6 7 million that Mr. Sorensen identified.
7 Q. Okay.
8 A. You know, there were additional upgrades made in
9 the test year. But second, the recommendation for that
10 disallowance is based on the specific facts of this case.
11 It's not a general recommendation that, you know,
12 disallowances should be made in all instances.
13 Q. If a utility comes along -- or let's say a
14 utility owner comes along and purchases a utility with
15 preexisting design or construction problems at the plant,
16 and the Commission adopts RUCO's recommendation to take away
17 50 percent of the cost to fix those preexisting problems.
18 Why would the new owners of the utility ever invest in those
19 upgrades if one-half of them are going to be excluded from
20 getting a rate of return?
21 A. Well, I'm sorry. What was the -- can you repeat
22 the question? I'm sorry.
23 Q. Okay. Let's try it this way, Mr. Rowell. Let's
24 take LPSCO. Okay? Let's assume that the Palm Valley Plant
25 needs another \$10 million in upgrades because there were

12 (Pages 42 to 45)

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1 some preexisting problems at the plant before LPSCO took
2 ownership of the plant. Okay? Can you make that assumption
3 with me?

4 A. For the sake of the argument, yes.

5 Q. Okay. If the Commission is going to set a
6 precedent of precluding one-half of those \$10 million in
7 upgrades from being included in rate base, why would LPSCO
8 or any other utility ever invest capital in those upgrades
9 if one-half of that capital is going to be precluded from
10 earning a rate of return?

11 A. Well, I'm not an attorney, but I will say I don't
12 believe that the, you know, Commission decisions really have
13 the wait of precedence. I do understand that. And more to
14 the point, I don't believe that, you know, my specific
15 recommendation here should apply in all instances, and
16 specifically regarding your specific example.

17 I don't -- whether the Commission should --
18 you know, let's suppose your example is true and there's an
19 additional 10 million in upgrades that are necessary.
20 Should the Commission disallow 50 percent of those? I'd
21 have to examine that. But I can say that I would not -- I
22 wouldn't automatically say that simply based on the
23 recommendations in this case.

24 Q. But you would agree that if a utility is faced
25 with a possibility of one-half of the upgrades, the

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1 intervenor. So I just am uncomfortable with that, and I'm
2 going to state it. And I think you should be uncomfortable,
3 as well. But --

4 MR. WILEY: I'm not even remotely.

5 BY MR. WILEY:

6 Q. Anyway, Mr. Rowell, you're aware that Global
7 acquired the West Maricopa Combine utilities; agreed?

8 A. I agree with that, but I don't agree with your
9 characterization that that's a good example.

10 Q. I haven't made my characterization yet. Let me
11 make it and --

12 A. Well, yeah, you did state that it was a good
13 example of that.

14 Q. Well, and I'm getting there. And several
15 utilities included within the West Maricopa Combine were
16 Water Utility of Greater Tonopah, Valencia Water Company;
17 correct?

18 A. Those are two of them, yes.

19 Q. Right. And Global also acquired Willow Water
20 Company; agreed?

21 A. Willow Valley?

22 Q. Yes.

23 A. Yes.

24 Q. Okay. And are you also aware that Global made
25 significant capital investments to improve the

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1 \$10 million in upgrades that we're talking about here
2 hypothetically, if LPSCO is faced with a possibility of half
3 of the capital for those upgrades being excluded from rate
4 base, why would LPSCO ever undertake the \$10 million
5 project? It would be a bad business decision; wouldn't it?

6 A. Well, I'm not going to belabor the point. You're
7 right. The risk of a possible disallowance would inhibit
8 such investments.

9 Q. And a good example of that would be Global.
10 You're aware that Global acquired the West Maricopa Combine
11 utilities? You're aware of that; correct?

12 A. I'm aware of that.

13 MS. WOOD: Okay. Wait a minute.

14 THE WITNESS: But I would --

15 MS. WOOD: Wait a minute.

16 Okay. At this point, if you're going to get

17 into issues relating to Global, I'm not an attorney
18 representing Mr. Rowell as a witness for Global. I don't --

19 MR. WILEY: Okay.

20 MS. WOOD: -- know what his testimony is. I
21 feel uncomfortable with it because I don't have the
22 permission of Mr. Sabo, who is the attorney representing
23 Global who has retained him, to talk to him. So I'm
24 uncomfortable being placed in that position because RUCO is
25 also a party to the Global proceeding, and we're an

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1 infrastructure problems at those smaller utilities it had
2 acquired? You understand that; correct?

3 A. I do understand that, yes.

4 Q. Okay. Based upon your testimony in this case,
5 Mr. Rowell, do you think Mr. Hill and Global would have made
6 those capital investments to improve and upgrade the
7 existing facilities at those utilities if they knew there
8 was a possibility that 50 percent of their investment would
9 be excluded from rate base?

10 A. I can't speak for Mr. Hill and his associates on
11 that matter.

12 Q. Were you aware that those utilities that -- well,
13 let me strike that.

14 You agree that a utility may discover
15 problems at a plant after it's been operated for several
16 years; correct?

17 A. That's correct.

18 Q. So in other words, there may not have been any
19 design problems at Palm Valley when it was originally
20 constructed, but after operation for a couple of years,
21 operational challenges may have occurred; fair?

22 MS. WOOD: I'm going to object. I think that
23 misstates the facts in evidence. I think he said
24 repetitively that the McBride report identifies --

25 MR. WILEY: Michelle, what you're doing now

13 (Pages 46 to 49)

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1 is a speaking objection.

2 MS. WOOD: I understand that.

3 MR. WILEY: In a deposition, you're allowed
4 to object as to form and foundation.

5 MS. WOOD: Thank you for that advice,
6 Mr. Wiley.

7 MR. WILEY: So please keep your objections to
8 that.

9 MS. WOOD: I understand your concern. But as
10 I told you before, he's already asked and answered these
11 questions multiple times.

12 MR. WILEY: Again, you're doing a speaking
13 objection, Michelle.

14 MS. WOOD: And I'm going --

15 MR. WILEY: Just form and foundation, and
16 I'll move on.

17 MS. WOOD: -- to tell you again, that if we
18 continue along the same line of asking the same questions
19 that have already been asked and answered multiple times,
20 we're going to presume it's for the purposes of harassment,
21 and we're going to leave.

22 MR. WILEY: Then, we'll call Judge Nodes.

23 MS. WOOD: Then, you can do that, but --

24 MR. WILEY: Okay.

25 MS. WOOD: -- I want to get through this.

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1 MR. WILEY: And if you want to go before him
2 like you did before, feel free. It won't be the first time
3 you've blatantly violated the law.

4 MS. WOOD: You know what, Mr. Wiley?

5 MR. WILEY: Anyways --

6 MS. WOOD: Your comments are unacceptable,
7 and we will be leaving here if you can't stick to the point.

8 MR. WILEY: And you'll be coming back,
9 Michelle.

10 MS. WOOD: We're going to take a break.

11 MR. WILEY: All right.

12 MS. WOOD: Let's take a break, Mr. Rowell.
13 (Recess taken, 10:22 - 10:27.)

14 BY MR. WILEY:

15 Q. Okay. Let's focus on your direct testimony,
16 Matt. Do you want to grab that? It's Exhibit 1.

17 A. Yes.

18 Q. Okay. If we go to page 3 of your testimony,
19 there's a line -- it's on page -- or it's on line 9, on line
20 9 to 10, quote:

21 The PVWRF is a wastewater processing
22 plant that went into service with an
23 average capacity of 4.1 mgd, end quote.

24 Do you see that line?

25 A. Yes.

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1 Q. What did you mean by "average capacity" there?

2 A. As opposed to peak capacity. In other words, I
3 believe the PVWRF is rated for an average monthly capacity
4 of 4.1 mgd. So it's the average capacity across the month.

5 Q. I'm not sure that answered my question. What do
6 you mean specifically by "average capacity of 4.1 mgd" in
7 that line?

8 A. The average capacity on a monthly basis is the --
9 well, let me back up. The average flow on a monthly basis
10 is the total flow for the month divided by the number of
11 days in the month. So it's the total daily flow for a
12 month. By "average capacity," what that means is that the
13 plant is rated to process 4.1 or less, based on that daily
14 average. Or monthly. Yeah, yeah. I guess it's a monthly
15 average.

16 Q. Have you performed any independent analysis of
17 plant capacity for the Palm Valley facility?

18 A. I believe some of the data requests that were
19 sent attempted to get at the capacity of the plant.

20 Q. Some of the data requests submitted by you?

21 A. By RUCO and me, yes.

22 Q. Okay. What have you done to determine the
23 existing or available capacity at the Palm Valley Plant?

24 A. Well, I've reviewed the responses of the data
25 requests. I've also read the testimony of the company

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1 witnesses, and as far as I know, the current capacity isn't
2 in dispute.

3 Q. Matt, I'm just literally asking what you've done
4 to investigate the capacity issues.

5 A. Okay.

6 Q. You're reading more into the question. If you
7 haven't done anything, just tell me you haven't done
8 anything.

9 A. Well, I have done things. I mean, the company
10 purports that it's 4.1 million gallons a day. We asked for
11 some follow-up data requests to get at, you know, exactly
12 what -- to get at that, and we've reviewed the responses.
13 So that's what we've done.

14 Q. Okay. On page 4 of your testimony you've got a
15 line on -- starting on line 3 where you say, quote:

16 LPSCO indicates that a large investment
17 in plant was necessary to remedy
18 deficiencies at the PVWRF, end quote.

19 Do you see that line?

20 A. I do see that, yes.

21 Q. Okay. Where does LPSCO say that in its
22 testimony?

23 A. It would be -- well, at a minimum, it's the same
24 line I gave to you in response to a previous question. And
25 we could go further. If we look at page 7 of Mr. Sorensen's

14 (Pages 50 to 53)

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1 testimony at line 18, it starts:
 2 As a response in 2007 and 2008, the
 3 company spent approximately 7 million to
 4 improve the plant.
 5 And thereon after, so --
 6 Q. So you relied on the same excerpts from
 7 Mr. Sorensen's testimony that we talked about earlier;
 8 correct?
 9 A. At a minimum. There may be additional ones in
 10 here.
 11 Q. Okay.
 12 A. But off the top of my head, I can't --
 13 Q. Do you know whether the design deficiencies that
 14 you're referring to were apparent in 2001 and 2002 when the
 15 plant was constructed?
 16 A. No, I don't know.
 17 Q. Okay. And if you don't know whether those design
 18 deficiencies were apparent when the plant was constructed in
 19 2002, you would agree that you also don't know whether the
 20 design deficiencies were apparent when Algonquin acquired
 21 LPSCO; fair?
 22 A. That's fair, yes. I don't know what Algonquin
 23 knew when they acquired the company or -- yeah, the company.
 24 Q. And, in fact, when Algonquin acquired the plant,
 25 the plant had been designed by PACE and had passed all

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1 County and DEQ reviews and approvals; fair?
 2 A. That's fair, yes.
 3 MR. WILEY: Okay. All right. Let's go off
 4 the record for a minute.
 5 (Discussion off the record.)
 6 MR. WILEY: Go ahead back on.
 7 BY MR. WILEY:
 8 Q. Now, you talked earlier about how you had
 9 reviewed portions of the McBride Engineering report. Do you
 10 recall that testimony?
 11 A. Yes. But to clarify, I've reviewed the entire
 12 report.
 13 Q. I didn't mean it that way.
 14 A. Okay.
 15 Q. Yeah. Okay. You reviewed the McBride report;
 16 correct?
 17 A. Correct.
 18 Q. And the report I've handed you, which I'll have
 19 her mark as Exhibit 2 -- let her put a sticky on that one,
 20 Matt.
 21 THE WITNESS: Okay.
 22 (Deposition Exhibit No. 2 was marked for
 23 identification.)
 24 MS. WOOD: Is his testimony Exhibit 1 or is
 25 Mr. Sorensen's 1?

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1 MR. WILEY: Just Mr. Rowell's.
 2 MS. WOOD: Okay.
 3 BY MR. WILEY:
 4 Q. Okay. What's been marked as Exhibit No. 2 is the
 5 Litchfield Park Sewer Company Water Reclamation Facilities
 6 Strategic Planning Evaluation Report prepared by McBride
 7 Engineering; correct?
 8 A. That's correct.
 9 Q. And is this the report that you reviewed and
 10 referenced in your testimony?
 11 A. I believe it is.
 12 Q. Okay. If we look at page 4 of your direct
 13 testimony again, you've got a line in there that it says,
 14 quote:
 15 Additionally, in response to RUCO data
 16 request MJR 2.14 the Company provided
 17 excerpts from a report developed by
 18 McBride Engineering Solutions, Inc.,
 19 that document several design problems at
 20 the PVWRF that resulted in excessive
 21 odors, insufficient reliability and a
 22 lack of redundancy capability, end
 23 quote.
 24 Do you see that line?
 25 A. Yes.

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1 Q. Okay. Where does the report say that?
 2 A. Well, in several places.
 3 Q. Show me.
 4 MS. WOOD: There are highlights on my copy.
 5 Did you mean to give me this one or --
 6 MR. WILEY: No, but that doesn't matter.
 7 MS. WOOD: Okay.
 8 MR. WILEY: Off the record.
 9 (Discussion off the record.)
 10 THE WITNESS: Section 3.1.1, Section 3.1.2.
 11 BY MR. WILEY:
 12 Q. Okay. Hold on. With respect to Section 3.1.1,
 13 where does McBride say the plant was not designed properly
 14 when it was originally constructed?
 15 A. My interpretation of the first line -- well, in
 16 other words, I interpret the first line of Section 3.1.1 to
 17 indicate that.
 18 Q. Okay. And that first line says, quote:
 19 Regarding the influent system, there is
 20 no flow equalization upstream of the
 21 influent pump station, end quote.
 22 Correct?
 23 A. That's what it says, yes.
 24 Q. Do you know whether flow equalization upstream of
 25 the pump station was necessary when the plant was

15 (Pages 54 to 57)

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1 constructed in 2002?

2 A. Well, McBride indicates that it's a problem.

3 Q. Do you know, Matt? I mean, that's what the
4 question was.

5 A. Do I know whether it was necessary in 2002? It
6 may not have been necessary to serve the load that was
7 occurring in '02, but I think the McBride report indicates
8 that it is necessary to serve the load that, you know,
9 occurred at the time of the McBride report.

10 Q. Does the McBride report say anywhere that the
11 need for upstream flow equalization was a result of design
12 errors as opposed to additional load at the facility?

13 A. Well, the plant was originally designed to handle
14 4.1 million gallons a day. And it's currently, and at the
15 time of the McBride report, it was below 4.1 million gallons
16 per day. So that leads me to believe that -- I forgot
17 exactly how you phrased your question. But if you're asking
18 is -- is it -- could these things be a result of additional
19 flow, I'm saying since -- because the plant was initially
20 designed to handle 4.1 million gallons a day, at the time of
21 the McBride report and currently, we're below 4.1 million
22 gallons a day, that leads me to believe that, no, it's not a
23 result of additional flow. It's --

24 Q. What is flow equalization?

25 A. To be honest with you, I don't know.

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1 Q. What type of flow equalization was required in
2 2002 by the County or DEQ?

3 A. I'm not aware of -- I don't know.

4 Q. What flow equalization was required in accordance
5 with accepted engineering and design standards for
6 wastewater treatment plants in 2002?

7 A. I don't know.

8 Q. Okay. And you're going to give the same answers
9 if I ask those same questions for all of the defects that
10 you think are in the McBride report; fair?

11 A. That's fair, yes.

12 Q. Okay. And what I meant by that is, if I asked
13 you the same questions about influent metering and sampling
14 locations, you would give me the same answers; agreed?

15 A. Essentially, yes.

16 Q. Okay. And that would apply to all of the items
17 listed in the McBride report; fair?

18 A. That's fair.

19 MR. WILEY: Off the record.

20 (Discussion off the record.)

21 BY MR. WILEY:

22 Q. Okay. On page 4 of the McBride report, there's a
23 paragraph under Section 3.0. Do you see that paragraph?

24 A. Yes.

25 Q. Okay. And what that paragraph says, it says,

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1 quote:

2 To identify challenge areas for the Palm
3 Valley WRF, MES reviewed the design
4 documents, process and capacity studies,
5 and operations information for the
6 plant, corrected interviews with --
7 MR. SORESEN: Conducted.

8 BY MR. WILEY:

9 Q. Conducted interviews and the Algonquin
10 engineers, managers, and operations
11 staff, talked to previous engineers and
12 employees familiar with the history of
13 the facilities, and consulted with
14 manufacturers and process equipment
15 experts, end quote.

16 Do you see that statement?

17 A. Yes.

18 Q. Did you do any of those things in this case?

19 A. No.

20 Q. Okay. The next line says, quote:
21 While none of the challenges presented
22 below appear to be preventing the
23 successful operation of the facility,
24 they do show target areas where
25 improvements could be made to enhance

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1 the overall operation, reliability and
2 cost-effectiveness of the plant, end
3 quote.

4 Do you see that sentence?

5 A. I do see that, yes.

6 Q. McBride said in this report, did it not, that the
7 plant was operating successfully as it was originally
8 designed and constructed; agreed?

9 A. I mean, are you asking me if that's what that
10 particular sentence says?

11 Q. Yes.

12 A. I'm sorry, but can you repeat the question?

13 Q. Sure. Essentially what McBride said in this
14 report is that none of the challenges listed in the report
15 prevented a successful operation of the plant; agreed?

16 A. Agreed.

17 Q. So in other words, the plant was operating
18 successfully as it was originally designed and constructed;
19 agreed?

20 A. McBride uses the term "successful operation."

21 Q. So you would agree?

22 A. Well, I agree that McBride uses the term
23 "successful operation."

24 Q. Were you going to add something? You seem like
25 you were adding something there.

16 (Pages 58 to 61)

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1 A. Well, I guess -- yeah, I'm sorry. The --
 2 Q. Do you know what McBride means by that line?
 3 A. Yeah. And I guess that's what I'm getting at is
 4 what exactly do they mean by "successful"?
 5 Q. Okay.
 6 A. You know, I mean, let's face it. If it was
 7 operating successfully, would they need to spend \$7 million
 8 to fix problems? So the plant operated. And I guess it's
 9 just not clear exactly what McBride means by the word
 10 "successful" there. The plant functioned. It processed --
 11 it processed the waste. But if -- you know, if upgrades
 12 were necessary, can we really call that operation
 13 successful?
 14 Q. So you don't know what McBride meant by that
 15 sentence; agreed?
 16 A. I don't know what they meant by the word
 17 "successful."
 18 Q. Okay. You agree that different engineers may
 19 design and engineer a wastewater treatment plant
 20 differently; fair?
 21 A. That's fair, yes.
 22 Q. Okay. And when an engineer is designing a
 23 wastewater treatment plant, you would also agree that the
 24 design must satisfy applicable regulatory and environmental
 25 rules, regulations and codes; agreed?

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1 A. Agreed.
 2 Q. I think I asked this question to you again (sic),
 3 and so I'll -- maybe I'm repeating myself, but I'm not sure
 4 what the answer was, so I'm going to ask you again.
 5 Okay. Looking at all of the issues in the
 6 McBride report, exactly what upgrades installed at the plant
 7 in 2008 were attributable to design defects, if you can tell
 8 me?
 9 A. No, I can't tell you specifically which upgrades
 10 were --
 11 Q. Okay.
 12 A. -- associated with these defects.
 13 Q. Okay. On page 5 of your testimony, lines 3
 14 through 6, you've got a line where you say, quote:
 15 Utilities have an obligation to design
 16 and build plant that meets acceptable
 17 levels of reliability. It is inherently
 18 unfair to saddle the customers with the
 19 excess and duplicative costs that result
 20 when utilities fail in that obligation,
 21 end quote.
 22 Do you see that sentence?
 23 A. Yes.
 24 Q. Okay. What excessive and duplicative costs were
 25 incurred relating to the 2008 upgrades in this case?

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1 A. Well, let me clarify "excessive and duplicative."
 2 I'm not alleging that -- that the \$7 million, say, was --
 3 well, let me rephrase it. I'm not alleging that the company
 4 could have spent less than \$7 million in '07 and '08 and
 5 still affected the same changes. The point there of
 6 "excessive and duplicative" is had the design problems not
 7 existed, in other words, when the plant was built in '01 and
 8 '02, had these problems not been present, the \$7 million in
 9 '01 -- in '07 and '08 would not have been necessary.
 10 Does --
 11 Q. I'm not sure you answered the question. Okay.
 12 What specific excessive and duplicative costs occurred as a
 13 result of installing the 2008 upgrades at the Palm Valley
 14 Plant? Tell me specifically, Matt.
 15 A. Well, I can't point to a specific cost that was
 16 incurred in '08. In other words, I can't point to a
 17 specific piece of plant. Is that what you're asking for?
 18 Q. Yes.
 19 A. No. Then, no, I can't point to a specific piece
 20 of plant or --
 21 Q. If you can't point to a specific piece of plant
 22 that resulted in excessive or duplicative costs, how can you
 23 recommend that \$3.5 million of the 2000 in upgrades (sic) be
 24 reduced from rate base?
 25 A. Well, again, I'm relying on Mr. Sorensen's

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1 testimony about the \$7 million spent to rectify the
 2 deficiencies.
 3 Q. Show me in Mr. Sorensen's testimony where he says
 4 that the 2008 upgrades caused any excessive or duplicative
 5 costs to ratepayers. He doesn't say that in his testimony;
 6 does he?
 7 A. No.
 8 Q. Okay. So let me ask it again, because I don't
 9 think you answered my question.
 10 If you can't point to a specific piece or
 11 item from the 2008 upgrades that resulted in excessive or
 12 duplicative costs to ratepayers, how can you reduce
 13 \$3.5 million from rate base with respect to the 2008
 14 upgrades?
 15 A. Again, it's based on Mr. Sorensen's testimony
 16 that \$7 million was spent to rectify the deficiencies.
 17 Q. But even if there were \$7 million that were spent
 18 for the 2008 upgrades, that doesn't mean that any of those
 19 costs were excessive or duplicative; agreed?
 20 A. No. I believe at least a portion of those costs
 21 were excessive and duplicative.
 22 Q. What portion?
 23 A. Well, we can't put a precise number on exactly
 24 what part of that \$7 million was excessive and duplicative.
 25 Q. So you would agree that your recommendation for a

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1 \$3.5 million reduction in rate base is not based on any
2 specific numbers, documents, items or any other information
3 relating to the 2008 upgrades; agreed?

4 A. Agreed.

5 Q. And as we sit here today, you don't have any
6 proof that there are any excessive or duplicative costs
7 resulting from the 2008 upgrades; agreed?

8 A. No, I would not agree with that.

9 Q. Okay. What proof do you have that there were
10 excessive or duplicative costs resulting from the 2008
11 upgrades?

12 A. Again, I believe Mr. Sorensen's testimony and the
13 McBride Engineering report point to that conclusion.

14 Q. Show me in Mr. Sorensen's testimony or McBride's
15 Engineering report where they itemized the excessive and
16 duplicative costs that resulted from the 2008 upgrades.

17 A. Neither one of those documents provide such
18 itemization.

19 Q. Okay. Show me what proof you're relying on for a
20 \$3.5 million reduction in rate base. Show me how you
21 itemize that number. How did you come up with that number?

22 A. I think I've testified that I haven't itemized
23 that number.

24 Q. Had the 2008 upgrades been included with the
25 original plant back in 2002, would you agree that those

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1 costs would not be excessive or duplicative as they would
2 have occurred in 2002?

3 MS. WOOD: Objection. Asked and answered,
4 and I think you misstate facts in evidence. Wasn't it 2001?
5 BY MR. WILEY:

6 Q. Go ahead, Matt.

7 A. Well, it's '01 and '02, to be clear, but I
8 understand your question. Well, we don't know if it would
9 have been \$7 million. But the answer to your question is,
10 whatever it would have cost to do it in '01 and '02 would
11 not have been excessive or duplicative.

12 Q. To your knowledge, Mr. Rowell, has the Commission
13 ever disallowed used and useful plant from being included in
14 rate base?

15 A. Yes.

16 Q. When?

17 A. Any time they disallow based on, say, a post test
18 year issue.

19 Q. Give me an example that you're aware of.

20 A. Oh, I can't think of an example off of the top of
21 my head, but --

22 Q. Outside of post test year adjustments, to your
23 knowledge, has the Commission disallowed used and useful
24 plant from being included in a utility's rate base?

25 A. I can't recall a specific example.

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1 Q. At the bottom of page 5 of your testimony, Matt,
2 and going on to the top of page 6, you've got a line where
3 you say, quote:

4 Prior to making a purchase as
5 substantial as LPSCO, sound business
6 practices would require a thorough
7 review of LPSCO's facilities. Design
8 problems identified at that stage would
9 have provided the purchaser with
10 significant leverage in price
11 negotiations.

12 Do you see that?

13 A. Yes.

14 Q. What do you mean by that line?

15 A. The second line?

16 Q. Both of them.

17 A. Well, I think they speak for themselves, but I'll
18 try to clarify. We'll start with the first line. If you're
19 buying a substantial piece of equipment, it would make sense
20 that you would check it out.

21 Q. What do you mean by "thorough review of LPSCO's
22 facilities"?

23 A. Well, I can say this. If it were me, I'd hire an
24 engineer to review the facilities.

25 Q. Okay. And what would the engineer look at?

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1 A. Well, my position is, you know, I'd have to find
2 a qualified engineer and rely on his judgment to make that
3 determination.

4 Q. If you had in-house engineers, would that suffice
5 for you?

6 A. Well, I guess it depends on the qualification of
7 the in-house engineers. But not to belabor the point, if
8 the in-house engineers were qualified to do the analysis,
9 then, yes.

10 Q. Okay. And what specifically would you have your
11 engineer look at when it's reviewing the Palm Valley Plant
12 for a potential acquisition?

13 A. Well, again, in large part, I'd have to defer to
14 the expertise of the engineer. But at a minimum, you'd want
15 to look at the -- you know, the basic question is, you know,
16 would the plant handle the flow you're expected to have over
17 the next several years? And by "handle," I mean handle
18 appropriately without problems.

19 Q. Okay. But you still haven't quite answered my
20 question. I'm asking you specifically what would an
21 engineer look at to conduct a thorough review of LPSCO's
22 facilities as you reference in your testimony?

23 A. Again, I'd defer to the expertise of the engineer
24 on that point.

25 Q. So in other words, you don't know what an

18 (Pages 66 to 69)

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1 engineer would look at when it's reviewing potential
 2 acquisition of utility facilities; fair?
 3 A. That's fair.
 4 Q. Okay. With respect to the second line there, you
 5 say:
 6 Design problems identified at that stage
 7 would have provided the purchaser with
 8 significant leverage in price
 9 negotiations.
 10 Do you see that line?
 11 A. Yes.
 12 Q. Okay. Were there any design problems that were
 13 apparent with respect to the Palm Valley Plant when LPSCO
 14 acquired it in 2003?
 15 A. I don't know.
 16 Q. Okay. If Algonquin had paid less for the stock
 17 of LPSCO in acquiring the company, how would that have
 18 impacted rates or rate base or customers?
 19 A. I don't believe it would have impacted rates.
 20 Q. And that's because the acquisition price isn't a
 21 factor in setting rates; agreed?
 22 A. Agreed.
 23 Q. Okay. Have you reviewed the direct testimony of
 24 Graham Symmonds in the Global rate case, Mr. Rowell?
 25 A. Yes.

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1 Q. Okay. On page 2 of his testimony --
 2 MS. WOOD: Excuse me.
 3 BY MR. WILEY:
 4 Q. -- and I'll let you read it if you want.
 5 MS. WOOD: Mr. Wiley, I don't have a copy of
 6 that.
 7 MR. WILEY: You can have my copy in a minute.
 8 I think I brought extra copies of this. Let's go off for a
 9 minute.
 10 (Discussion off the record.)
 11 MR. WILEY: Back on.
 12 BY MR. WILEY:
 13 Q. On page 2 of Mr. Symmonds' direct testimony, he
 14 testifies as follows, quote:
 15 I describe the benefits of consolidation
 16 by looking at our prior experience in
 17 taking over small, poorly designed water
 18 companies, and how we were able to make
 19 dramatic improvements in these systems,
 20 end quote.
 21 Do you see that line?
 22 A. Yes.
 23 MS. WOOD: Can you guys just give me a
 24 minute? I have to take a break for a minute, and I'll come
 25 back and read that after you have. I just have to take a

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1 moment to break. I'll be right back.
 2 (Recess taken, 11:01 - 11:06.)
 3 BY MR. WILEY:
 4 Q. Okay. Mr. Rowell, I've showed you a copy of
 5 Mr. Symmonds' direct testimony from the Global rate case;
 6 correct?
 7 A. Yes.
 8 Q. And you recognize that as Mr. Symmonds'
 9 testimony?
 10 A. Yes.
 11 Q. Okay. On page 2, Mr. Symmonds has a line where
 12 he says, quote:
 13 I describe the benefits of consolidation
 14 by looking at our experience in taking
 15 over small poorly designed water
 16 utilities and how we were able to make
 17 dramatic improvements in these systems,
 18 end quote.
 19 Do you see that line?
 20 A. Yes.
 21 Q. He's talking about the West Maricopa Combine
 22 utilities there; correct?
 23 A. Among others, yes.
 24 Q. And Willow Valley is another one that's included
 25 in there?

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1 A. Yes.
 2 Q. Okay. And in his testimony, Mr. Symmonds
 3 specifically notes that those systems were poorly designed
 4 when they were -- let me rephrase that.
 5 Mr. Symmonds is saying in that line that the
 6 West Maricopa utilities that Global acquired and Willow
 7 Valley had preexisting design problems from the prior
 8 owners. Does that read --
 9 MS. WOOD: Before you guys continue, I'm
 10 going to make an objection. I'm going to have it apply to
 11 all the line of questioning that applies to Global, and just
 12 express my uncomfortableness. And I know it's going to be
 13 more wordy than ordinarily an objection would be, but I just
 14 have to say it.
 15 MR. WILEY: Go ahead, Michelle. Put it on
 16 once, and we'll have it apply to all questions that apply.
 17 MS. WOOD: Okay. Thank you very much.
 18 RUCO is an intervenor in the matter of
 19 Global. I'm uncomfortable with the line of questioning that
 20 would put me in the position of defending a deposition of,
 21 basically, Mr. Rowell's testimony or the testimony of other
 22 witnesses in Global because RUCO is an intervenor, and I
 23 think it creates a conflict.
 24 I don't have the permission of Mr. Sabo to
 25 discuss these matters with Mr. Rowell; and therefore, I

19 (Pages 70 to 73)

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1 don't have the ability to defend the deposition the way I
 2 ordinarily would with a witness. And along with that, you
 3 know, conflict potential, I think it's a bit unfair. So I
 4 make those two objections, and then, also as to relevance.
 5 Thank you.
 6 BY MR. WILEY:
 7 Q. Okay. Let me rephrase the question for you,
 8 Mr. Rowell. In that line in Mr. Symmonds' testimony, he's
 9 talking about the fact that the various small utilities that
 10 Global had acquired had preexisting design problems with
 11 respect to the facilities and infrastructure at those
 12 companies; agreed?
 13 A. Agreed.
 14 Q. Okay. And he also references the fact that
 15 Global made, quote, dramatic improvements in these systems;
 16 correct?
 17 A. Correct.
 18 Q. And what he's talking about there is Global
 19 invested capital in those facilities to upgrade the sewer
 20 lines, the plant, the infrastructure and the facilities;
 21 correct?
 22 A. Correct.
 23 Q. Okay. Let me have you look at page 17. On
 24 page 17 there's a line for Mr. Symmonds' testimony that
 25 says, quote:

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1 As another example, West Maricopa
 2 Combine allowed developers to specify
 3 the scale and location of facility. As
 4 a result, the Valencia Water Company
 5 Town Division has 6 EPDS points and 6
 6 treatment systems. The abdication of
 7 the utility in this case to the
 8 developer for technical specifications
 9 has resulted in an increased direct
 10 operating cost, end quote.
 11 Do you see that line?
 12 A. Yes.
 13 Q. Okay. You would agree that what Mr. Symmonds is
 14 talking about is that the West Maricopa Combine utilities,
 15 as they were originally constructed, were essentially
 16 designed, developed and paid for by developers; agreed?
 17 A. Agreed.
 18 Q. And what he's talking about here is that, as a
 19 result of being designed, paid for and constructed by
 20 developers, there were resulting problems with those plants
 21 and facilities; agreed?
 22 A. That's a fair characterization.
 23 Q. And Global then went ahead and corrected those
 24 preexisting construction and design problems with the
 25 West Maricopa facilities; agreed?

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1 A. Agreed.
 2 Q. And they invested capital to do that; correct?
 3 A. That's correct.
 4 Q. Okay. You would agree that LPSCO did the same
 5 thing with respect to the Palm Valley Plant?
 6 A. I'd agree that Algonquin did the same thing.
 7 Q. Okay. Fair enough.
 8 A. To be clear.
 9 Q. Algonquin is the shareholder and owner of LPSCO;
 10 fair?
 11 A. Fair. The current shareholder and owner as
 12 opposed to the previous.
 13 Q. Yes. And the prior owner was SunCor, who was a
 14 developer; correct?
 15 A. Correct.
 16 Q. Okay. Let's go to page 30. Okay. Page 30,
 17 Mr. Symmonds includes a line where he says, quote:
 18 Small water companies often have poor
 19 existing infrastructure. This is a
 20 combination of poor infrastructure
 21 choices when projects are started,
 22 combined with poor maintenance, end
 23 quote.
 24 Do you see that line?
 25 A. Yes.

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1 Q. And again, what Mr. Symmonds is referencing is
 2 poor infrastructure choices as to the original construction
 3 and design of the facilities for the West Maricopa Combine
 4 and Willow Valley; fair?
 5 A. Fair enough, yes.
 6 Q. Okay. Finally, I wanted you to reference
 7 paragraph — or page 35 of Mr. Symmonds' testimony. On
 8 page 35 of Mr. Symmonds' testimony, he's got a line where he
 9 says, quote — or let me answer the — let me reference the
 10 question.
 11 QUESTION: What has been the total cost
 12 of the system improvements for Willow
 13 Valley, question mark?
 14 ANSWER: To date, Global has invested
 15 \$2,102,980 in improving water quality
 16 through new treatment systems and
 17 infrastructure upgrades, end quote.
 18 Do you see that line?
 19 A. Yes.
 20 Q. Okay. And those improvements at Willow Valley
 21 were installed to correct the preexisting design and
 22 infrastructure problems at the utility; agreed?
 23 A. I believe that's what he's saying there, yes.
 24 Q. Okay. Now, you've read Mr. Symmonds' testimony
 25 which says that the original systems for the West Maricopa

20 (Pages 74 to 77)

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1 Combine utilities and Willow Valley were poorly designed and
2 necessitated upgrades paid for by Global; correct?

3 A. That's correct.

4 Q. Okay. Consistent with your position in this
5 case, Mr. Rowell, wouldn't you agree that RUCO could say
6 that Global's rate base should be reduced by one-half of all
7 the costs that Global incurred to fix the preexisting design
8 and construction problems at the West Maricopa Combine
9 utilities and Willow Valley?

10 A. No.

11 Q. Why not?

12 A. Because those utilities had essentially no rate
13 base at the time they were purchased, so there's no issue
14 with the customers paying twice. In other words, at the
15 time Global purchased those utilities, the rate base was
16 zero, close to zero. In some cases it was negative. So
17 let's just take the \$2.1 million you referenced here.

18 Q. Okay.

19 A. Global makes \$2.1 million of investments.
20 Ratepayers pay a return on that \$2.1 million of investments.
21 But they're not also paying a return on whatever investments
22 were made when the plant was initially built because the
23 rate base associated with those investments is zero. So
24 there's no double payment issue, let's put it that way.

25 Q. But there isn't any double payment issue with

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1 respect to LPSCO; is there? The original plant was never
2 included in rate base; correct?

3 A. Well, but the company's seeking to include it in
4 rate base in this case.

5 Q. True.

6 A. So currently, there is no double payment issue.

7 Q. Okay.

8 A. But there would be a double payment issue pending
9 the resolution of the rate case.

10 Q. How so? Please tell me what you view as a double
11 payment issue with respect to LPSCO.

12 A. Well, again, the company -- the company. The
13 customers would be paying a return on the plant as it was
14 originally built back in '01-'02, minus depreciation, and
15 then, they'd be asked to pay an additional return for the
16 upgrades that were necessitated by the design problems that
17 existed back in '01 and '02.

18 Q. So where is the double payment?

19 A. Well, I provided you with two sources of -- I
20 provided you with two returns that the customers would be
21 paying, and, you know, two is double. So --

22 Q. Well, but I don't understand what you're telling
23 me, Matt, and so I'm asking you. Really, I'm just asking
24 you because I don't understand.

25 A. Okay.

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1 Q. Where is the double payment, in your mind?

2 A. It's -- again, the customers are going to pay a
3 return. Let's suppose the case -- suppose, you know, RUCO's
4 adjustment isn't accepted by the Commission. Rates go into
5 effect accordingly. Customers will pay a return on the
6 plant that was put into service in '02.

7 Q. Minus depreciation?

8 A. Minus depreciation. Then, they'll pay an
9 additional return on the upgrades that were made in '07 and
10 '08. Those upgrades were necessitated by design problems
11 that existed with the original plant. I see that as a
12 double payment issue. In other words, the upgrades that
13 were made in '07 and '08 aren't really -- you know, they're
14 not expanding the capacity of the plant. They're not
15 providing, you know, additional services that were
16 previously not being provided to the customers.
17 Essentially, they're there to provide the same -- or those
18 upgrades were made to provide the same services that the '01
19 and '02 plant additions were put in to provide.

20 Q. Had those 2008 upgrades been included in the
21 original plant, they would have been included in rate base
22 and there would be no double payment issue; correct?

23 A. Well, we don't know what the amount would have
24 been, but that's correct, yes.

25 Q. As a general principle; that's correct?

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1 A. As a general principle, correct. Sorry for --

2 Q. So what harm has been caused to ratepayers by
3 virtue of the fact that those upgrades were installed in
4 2008 instead of 2002 when the plant was commissioned?

5 A. Well, again, as of today, there has been no harm.
6 But given -- you know, given the outcome of the rate case,
7 the potential harm is -- well, as I've already said, at a
8 minimum, it's the depreciation on the \$7 million over the
9 years between '02 and the test year.

10 Q. Is that straight line depreciation?

11 A. I believe sewer plant is straight line for
12 ratemaking purposes, yes.

13 Q. So how much does it depreciate per year on a
14 straight line?

15 A. You know, each account has a different rate. And
16 again, as I said before, I don't want to speculate on -- off
17 the top of my head, I don't remember the depreciation rates.

18 Q. Okay. And you haven't been tasked with
19 evaluating depreciation rates for the Palm Valley Plant;
20 fair?

21 A. That's fair, yes. And to continue on with my
22 answer, I don't think we can just assume that the upgrades
23 would have cost \$7 million had they been installed in '01 or
24 '02.

25 Q. But again, you don't know what they would have

21 (Pages 78 to 81)

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1 cost in 2002; agreed?

2 A. Agreed.

3 Q. Okay. Why didn't Global just simply demand a

4 lower acquisition price for the West Maricopa Combine

5 utilities and Willow Valley when it acquired them resulting

6 from the preexisting design and construction problems with

7 those utilities?

8 A. I don't know that they didn't.

9 Q. Do you recall your rebuttal testimony in Global's

10 case?

11 A. I do, yes.

12 Q. Okay. There's a line in there where you say that

13 the owners of the West Maricopa Combine were able to

14 leverage their possession of the CC&N's into a higher

15 acquisition price for their utilities. Do you recall that

16 line?

17 A. Yes, I do.

18 Q. Okay. When Global acquired the West Maricopa

19 Combine, were they able to leverage a lower price as a

20 result of the preexisting problems with those utilities?

21 A. I don't know if they did or did not.

22 Q. But what you've testified to in the Global case

23 is that the owners of the West Maricopa Combine actually

24 were able to leverage a higher price; agreed?

25 A. That's true, yes.

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1 Q. Okay. Now, how much did Global acquire the

2 utilities for?

3 A. Oh, I don't remember off the top of my head.

4 Q. It was roughly in the \$50 million range?

5 A. It was a lot of money.

6 Q. Yeah. You agree that Global acquired those

7 utilities on the assumption that Global would invest capital

8 for upgrades and that those upgrades would be included in

9 the rate base of those utilities?

10 A. Yes.

11 Q. All right. I'm done with Mr. Symmonds. You can

12 put that away if you want.

13 Okay. If we go back to page 6 of your

14 testimony, Mr. Rowell, from lines 4 through 11, you have the

15 following paragraph, quote:

16 Additionally, allowing for full recovery

17 of the PVWRF redesign costs based on the

18 fact that the facility changed hands

19 would send the wrong signal to the

20 industry. Companies looking to purchase

21 utilities in Arizona would have less

22 incentive to do proper due diligence if

23 they know that the costs of fixing any

24 existing problems could be imposed on

25 the ratepayers. Similarly, if utilities

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1 that are building plant know that any

2 problems with the plant can be dispensed

3 through a sale to another entity their

4 incentive to build the plant properly in

5 the first place will be diminished, end

6 quote.

7 Do you see that paragraph?

8 A. Yes.

9 Q. On what do you base that paragraph? On what

10 basis are you giving that testimony?

11 A. That's just my training as an economist; and in

12 particular, our -- in particular, as an economist, we're

13 trained to look at incentives.

14 Q. Have you ever been involved, either as a

15 consulting witness or as an analyst or consultant in any

16 capacity, with the acquisition of a water or sewer company

17 in Arizona?

18 A. No.

19 Q. Do you know what type of due diligence is

20 standard in the industry for companies that are looking to

21 acquire regulated sewer or water companies in Arizona?

22 A. No.

23 Q. Okay. Do you seriously think that a potential

24 buyer for a utility like LPSCO or the West Maricopa Combine

25 investing \$50 million in acquisition costs would not conduct

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1 a proper due diligence?

2 A. No, I don't think that.

3 Q. So you agree that they'll conduct a proper due

4 diligence?

5 A. Yes.

6 Q. And, in fact, that's required by lenders and

7 financiers for the acquisitions; agreed?

8 A. Agreed.

9 Q. Are you aware of any specific case where a

10 company buying a utility in Arizona didn't conduct a proper

11 due diligence because they thought that the cost of fixing

12 any existing problems could be imposed on the ratepayers?

13 A. No.

14 Q. Who wrote your testimony, Mr. Rowell?

15 A. I wrote it.

16 Q. Did you write it all yourself?

17 A. I believe so. There were edits, you know, typos

18 corrected by other people; but yes, I wrote it.

19 Q. And I assume you sent it to RUCO to review the

20 testimony and you got comments from them and Miss Wood;

21 correct?

22 A. Correct.

23 Q. Okay. But you're the one that principally wrote

24 the testimony?

25 A. Correct.

22 (Pages 82 to 85)

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1 MR. WILEY: Okay. Just off the record for a
 2 minute, Chris. Here mark this one Exhibit 3.
 3 (Deposition Exhibit No. 3 was marked for
 4 identification.)
 5 (Recess taken, 11:26 - 11:29.)
 6 MR. WILEY: Back on.
 7 BY MR. WILEY:
 8 Q. Matt, what we've marked as Exhibit 3 is the
 9 Phase I Design Report for Litchfield Park Service Company
 10 prepared by Pacific Advance Civil Engineering, dated
 11 October 2001. Do you see that?
 12 A. Yes.
 13 Q. Okay. And do you recognize this report?
 14 A. No. This does not look familiar to me.
 15 Q. You haven't reviewed this report before today?
 16 MS. WOOD: And I just want to interject,
 17 because there was a little discussion off the record about
 18 the report. And I just want to clarify, is this the 2001
 19 report or the 2004 report?
 20 MR. WILEY: 2001.
 21 MS. WOOD: 2001. Is there a 2004 report?
 22 MR. WILEY: I don't know off.
 23 (Discussion off the record.)
 24 MR. WILEY: Okay. Let's go back on.
 25 ///

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1 BY MR. WILEY:
 2 Q. Mr. Rowell, in preparing your testimony, you did
 3 not review the PACE Phase I Design Report for the Palm
 4 Valley Plant; correct?
 5 A. I did not review this 2001 report.
 6 Q. Okay.
 7 A. It does say, "Phase I Design Report." Okay.
 8 Q. Yeah. And it's your understanding that this is
 9 the original design report for the Palm Valley Plant as it
 10 was constructed and engineered in 2001 to 2002; agreed?
 11 A. Well, if that's what you're telling me, I'll take
 12 your word for it, yes.
 13 Q. Okay. I'll make that representation to you.
 14 A. Okay.
 15 Q. Okay? You would agree that if you're going to
 16 give opinions or testimony on design and construction
 17 problems at the Palm Valley Plant, you would want to review
 18 the original design report prepared by the engineer that
 19 stamped the plans for the facility; agreed?
 20 A. Not necessarily.
 21 Q. Why not?
 22 A. When you have other sources of information that
 23 you believe you can rely on.
 24 Q. So you don't think it's necessary to review and
 25 rely on the original design report for the plant; is that

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1 what you're telling me?
 2 A. Yes.
 3 Q. Let me have you go to page 7 of the report. On
 4 page 7 of the PACE report, there's a paragraph where it
 5 says, "Design and Construction Standards. The design and
 6 construction of the Palm Valley WRF Phase I will be in
 7 conformance with the following codes: MAG - Uniform Details
 8 and Standard Specifications for Public Works Construction,
 9 1998; City of Goodyear Engineering Standards and Policies
 10 Manual; ADEQ Engineering Bulletin 11, 1978; Uniform Building
 11 Code (UBC) 1997; Uniform Plumbing Code (UPC) 1997; Uniform
 12 Fire Code, Latest Edition."
 13 Do you see that paragraph?
 14 A. Yes.
 15 Q. Do you have any basis on which to dispute that
 16 the Palm Valley Plant as originally designed and constructed
 17 met and complied with all of those standards?
 18 A. No.
 19 Q. Let me have you go to page 11 of the report. At
 20 the top of page 11 there is a line that says, quote:
 21 Installed redundant pumping systems have
 22 been provided throughout the treatment
 23 process, end quote.
 24 Do you see that line?
 25 A. I do see that, yes.

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1 Q. Do you have any basis on which to disagree with
 2 that line in the PACE report?
 3 A. No.
 4 Q. Okay. Let's have you look at page 16 of the
 5 report. Page 16 references two different treatment
 6 alternatives that were considered for the plant, which were
 7 oxidation ditch and sequencing batch reactor (SBR). Do you
 8 see those references?
 9 A. Yes.
 10 Q. Do you know what those are?
 11 A. They're two different treatment methods.
 12 Q. But do you know how either of the treatment
 13 methods operates or works?
 14 A. No.
 15 Q. Okay. Do you know whether this plant was
 16 designed in a fashion that would facilitate upgrades to the
 17 plant as it was originally constructed?
 18 MS. WOOD: Could you repeat that question,
 19 please?
 20 MR. WILEY: Sure.
 21 BY MR. WILEY:
 22 Q. Let me try again, Matt. You look confused.
 23 A. I'm sorry. I didn't mean to.
 24 Q. Maybe it's just me.
 25 As originally designed by PACE, do you know

23 (Pages 86 to 89)

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1 whether the plant was intended to be designed and
 2 constructed in a fashion that allowed upgrades and
 3 enhancements to be installed to the plant?
 4 A. I don't know.
 5 Q. Let me have you look at page 29. Okay. At the
 6 top of the third paragraph, there's a line that says, quote:
 7 In the scenario where one SBR basin is
 8 out of service, the facility can be
 9 operated to process wastewater at the
 10 design flow rate, end quote.
 11 Do you see that sentence?
 12 A. Yes.
 13 Q. Do you have any basis upon which to disagree
 14 either the plant was designed in that fashion?
 15 A. I have no basis to disagree with that sentence.
 16 Q. Okay. And the first sentence in the last
 17 paragraph on that page says, quote:
 18 In addition, equipment, such as pumps
 19 and manifolds, are chosen and sized to
 20 allow for equipment redundancy, end
 21 quote.
 22 Do you see that sentence?
 23 A. Yes.
 24 Q. You don't have any basis to disagree that the
 25 plant was designed for equipment redundancy; agreed?

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1 A. Restate the question.
 2 Q. I may have left out a verb there.
 3 You don't have a basis upon which to disagree
 4 that the plant was originally designed with equipment
 5 redundancies in it; agreed?
 6 A. Well, I believe Mr. Sorensen's testimony does
 7 indicate there were some redundancy problems. Now, I don't
 8 know if those are specific to pumps and manifolds as
 9 discussed here. So if your question is specific to the
 10 sentence, my answer is no, I have no reason to believe -- I
 11 have no reason to dispute this particular sentence.
 12 Q. Let me have you look -- let's see. Let me have
 13 you go back to page 16 of the report, Matt. I forgot a
 14 question. 16. Go to that second paragraph. This is off
 15 the record.
 16 (Discussion off the record.)
 17 BY MR. WILEY:
 18 Q. Referring to page 16 of the PACE Phase I Design
 19 Report, Mr. Rowell, there's a line that says, quote:
 20 Of these two alternatives, SBR's offer
 21 advantages in terms of construction
 22 costs, land required, ease of expansion
 23 and operational flexibility that make
 24 the sequential batch reactor the most
 25 viability treatment alternative, end

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1 quote.
 2 Do you see that statement?
 3 A. Yes.
 4 Q. Do you disagree with that statement?
 5 A. I have no basis to disagree with that statement.
 6 Q. And you would also note that one of the benefits
 7 of the SBR design was ease of expansion, which is what it
 8 says; correct?
 9 A. Yes.
 10 Q. Okay. In the sixth bullet point under that
 11 paragraph that I just read you says, quote:
 12 Capacity upgrades in phasing do not
 13 require modification or interruption of
 14 current treatment process --
 15 processes -- or process, end quote.
 16 Do you see that line?
 17 A. Yes.
 18 Q. You have no basis for disagreeing with that line
 19 in this report either; correct?
 20 A. Well, to clarify, the report, I believe here, is
 21 speaking in general terms about the SBR, and in that -- with
 22 that clarification, no, I have no reason to disagree.
 23 Q. Okay. Mr. Rowell, are you suggesting that the
 24 engineers that designed the Palm Valley Plant as originally
 25 constructed violated any standards of care or rules or

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1 regulations?
 2 A. No.
 3 Q. Okay. Were you aware that the Corporation
 4 Commission ordered LPSCO to make improvements to the odor
 5 control system at the Palm Valley Plant?
 6 A. No.
 7 Q. If the Commission had ordered LPSCO to make
 8 improvements to the plant, would you agree that those
 9 improvements are necessarily prudent?
 10 MS. WOOD: Objection. Lack of foundation.
 11 THE WITNESS: Generally speaking, if there's
 12 a Commission order, I'd say the investment was prudent,
 13 depending on, you know, how specific the Commission's order
 14 is.
 15 BY MR. WILEY:
 16 Q. If the Commission ordered LPSCO to install
 17 upgrades at the plant for odor control or other operational
 18 issues, you would agree that LPSCO would have to follow the
 19 orders of the Commission; fair?
 20 A. Yes.
 21 Q. Okay. And would you recommend taking out
 22 one-half of the value of those upgrades from a rate base if
 23 LPSCO installed them pursuant to Commission instructions?
 24 MS. WOOD: Objection. Speculation.
 25 THE WITNESS: It would depend on the facts.

24 (Pages 90 to 93)

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1 BY MR. WILEY:

2 Q. The facts of this case. Assume the facts of this
3 case.

4 A. Now, with the facts -- I mean, let's be clear on
5 what you're asking me. Are you asking me if -- if the plant
6 associated with the \$7 million was -- or if the Commission
7 ordered LPSCO to invest the \$7 million at issue, would I
8 agree that there should be no disallowance? And the answer
9 is no. It's really not a prudence issue. It goes back to
10 the same -- the same justification I gave previously.

11 Q. When you say it's not a prudence issue, what
12 you're talking about is you agree that the 2008 upgrades are
13 used and useful and were a prudent investment decision.
14 Your concern is with potentially excessive costs that were
15 incurred; fair?

16 MS. WOOD: Objection. I think that misstates
17 the evidence. He never evaluated prudence, and he never
18 said he did.

19 BY MR. WILEY:

20 Q. You would agree; correct?

21 A. At -- well, I'll preface my answer by saying, I
22 haven't evaluated the prudence. But I guess my point is --
23 my recommendation isn't based on a prudence valuation. And
24 I'm sorry. I forgot your question.

25 Q. I was just simply saying -- I mean, I guess what

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1 I'm getting at, Matt, is your issue is with the costs that
2 were incurred as opposed to whether the plant was used and
3 useful or prudent; fair?

4 A. That's fair. You used the word "excessive." And
5 as I defined "excessive" previously, yes.

6 MR. WILEY: Okay. This is off the record for
7 a minute, Chris.

8 (Discussion off the record.)

9 BY MR. WILEY:

10 Q. You agree, Mr. Rowell, that change conditions
11 surrounding a sewer plant can necessitate upgrades and
12 modifications to the plant; fair?

13 A. That's fair, yes.

14 Q. And change conditions might include new zoning
15 requirements; agreed?

16 A. That might be the case.

17 Q. Another change condition might be increased
18 density of development around the plant; agreed?

19 A. Increased density of development. I -- I'm not
20 sure exactly what you mean by increased density of
21 development.

22 Q. Do you know what type of development surrounded
23 the Palm Valley Plant when it was built?

24 A. I don't know exactly, but I know there wasn't
25 much there.

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1 Q. Okay. Do you know what it was zoned for around
2 the plant?

3 A. By "around the plant," do you mean --

4 Q. In the vicinity of the plant.

5 A. Like across the street or --

6 Q. Surrounding the plant.

7 MS. WOOD: Objection. Vague.

8 THE WITNESS: What I'm getting at is, are you
9 asking me --

10 BY MR. WILEY:

11 Q. I'm asking if you know what the zoning
12 restrictions were around the Palm Valley Plant when it was
13 designed and constructed in 2001 and 2002.

14 A. Well, if we say around, you know, generally,
15 there would have been various different types of zoning.

16 Q. Do you know what type of odor easement applied to
17 the Palm Valley Plant when it was engineered and constructed
18 in 2001 and 2002?

19 A. I don't recall exactly, but it was a specific
20 number of feet.

21 Q. Do you know whether that odor easement was
22 changed after the plant had been operated for a couple of
23 years?

24 A. The odor easement was changed.

25 Q. And it was decreased; correct?

Page 97

1 A. I don't recall. I seem to recall it was
2 increased.

3 Q. It was -- well, I guess what I mean by
4 "decreased" is that the original zoning restriction, I
5 think, was 350. The odor easement was 350 feet around the
6 plant. That was subsequently changed to 150 feet. Are you
7 aware of that?

8 A. That's consistent with my memory.

9 Q. And so in other words, stricter odor easement
10 requirements were imposed after the plant had already been
11 built and constructed; agreed?

12 A. You know, I'd like to review -- excuse me.

13 Excuse me. I'd like to review what was -- I recall there
14 was a change. Off the top of my head, I don't recall
15 exactly what it was.

16 Q. If you need to review something, Matt, let me
17 know. You can take the time to look at it.

18 A. I believe it's described in Mr. Sorensen's
19 testimony.

20 Q. Okay. Do you want to take a look through it?

21 A. Yeah. I might as well.

22 MS. WOOD: Off the record.

23 (Discussion off the record.)

24 BY MR. WILEY:

25 Q. Mr. Rowell, my question before had the numbers

25 (Pages 94 to 97)

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1 reversed. When the plant was originally constructed, it had
2 a 150-foot odor easement around the plant, which was
3 subsequently changed either during or after construction to
4 350 feet; correct? Did I mess that up again?

5 MR. SORENSEN: Uh-huh.

6 MS. WOOD: Do you guys want us to go so you
7 can talk?

8 MR. WILEY: No.

9 MS. WOOD: Okay.

10 BY MR. WILEY:

11 Q. All right. Mr. Rowell, let's try it this way.
12 On page 7 of Mr. Sorensen's testimony, he includes a line
13 that says, quote:

14 When the PVWRF was designed and
15 constructed, it received a setback
16 variance from the City of Goodyear, and,
17 in turn, ADEQ allowed an odor easement
18 of only 150 feet instead of the now
19 minimum 350 feet.

20 Do you see that?

21 A. Yes.

22 Q. Okay. So when the plant was designed and
23 constructed, it had a lesser -- a less restrictive odor
24 easement than is currently required now; agreed?

25 A. No, I can't agree with that.

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1 Q. Okay. Why not?

2 A. One hundred and fifty feet is less than three
3 hundred and fifty feet.

4 Q. That's true. Do you know what those easements
5 mean?

6 A. I assume that the easement was the -- I just want
7 to make sure I phrase it correctly. I assume that the
8 easement was the maximum distance from the plant at which,
9 you know, odors would be a problem.

10 Q. Okay. If we put that a different way, you would
11 agree that the 150-foot odor easement means that there
12 should be no odor for 150 feet around the plant; agreed?

13 A. Outside of the 150.

14 Q. Outside of 150.

15 A. Yes.

16 Q. Okay. Let me rephrase that again. I think I'm
17 definitely not being clear on this line of questioning.

18 The 150 feet is the fence line around the
19 plant where odors would be measured by ADEQ with respect to
20 odor -- you know, odor requirements. Is that your
21 understanding?

22 A. If you're representing that, I don't have a
23 reason to dispute.

24 Q. Okay. And you don't know what the odor
25 requirements were around the plant; fair?

Page 100

1 A. No.

2 Q. Okay. Do you believe that potential buyers of
3 water and sewer utilities in Arizona would still acquire
4 utilities that required significant upgrades if they knew
5 that there was a potential that half of the amount of the
6 upgrades would be reduced from a rate base?

7 A. Did you ask if they would still require them?

8 Q. Acquire. You would agree that would have a
9 chilling affect on acquisitions of water and sewer companies
10 in Arizona; agreed?

11 A. I don't know if "chilling" is the right word.

12 You know, I'll say this: That there are competing incentive
13 problems presented by my recommendation, and one of them is
14 the incentive problem you bring up, that it would make
15 investors reluctant to acquire such plants. I don't know if
16 "chilling affect" is the right word, but it would -- you
17 know, again, I can't belabor this point. It would create
18 some degree of reluctance, some degree of additional care on
19 the part of potential investors.

20 On the other hand, letting it go creates,
21 like I said, a competing incentive problem, that being it
22 really sends the signal to the industry that if you build a
23 plant with design problems, there will be no repercussions.
24 And I'll say this. You know, the decision makers will have
25 to weigh those two competing incentive problems when they

Page 101

1 decide on the appropriateness of the adjustment.

2 Q. And in your testimony that you provided in
3 Global's rate case, you provided testimony that the
4 Commission should be encouraging consolidation of smaller
5 troubled water and sewer utilities in Arizona; correct?

6 A. That's true. But I can't see that that applies
7 to a plant built by SunCor. I mean, SunCor isn't exactly a
8 little tiny water or sewer company.

9 Q. But you have given testimony establishing the
10 importance and public benefits of consolidating smaller
11 sewer and water companies in Arizona; correct?

12 A. That's correct.

13 Q. And essentially, the public benefit to that is
14 you avoid utilities like the Water Utility of Greater
15 Tonopah and the Willow Valley that have low rate bases and
16 have facilities with problems; agreed?

17 A. Agreed.

18 Q. Okay. And you would agree it's important as a
19 matter of public policy to encourage buyers to acquire
20 smaller water and sewer companies in Arizona; agreed?

21 A. Agreed.

22 Q. Would you also agree that an important factor in
23 encouraging buyers to acquire water and sewer companies in
24 Arizona is cost certainty with respect to recovering costs
25 for upgrades that they might install to fix the preexisting

26 (Pages 98 to 101)

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1 problems with those utilities?

2 A. I don't believe that there's such a thing as cost

3 certainty.

4 Q. But you agree that the more certain a buyer can

5 become that it's going to gain a return on its investment in

6 the plant or upgrades to the existing plant, the more likely

7 that that buyer will acquire the companies; fair?

8 A. Everything else held constant, yes.

9 Q. If the Commission were to adopt RUCO's

10 recommendation and reduce rate base by \$3.5 million,

11 essentially deleting half of the 2008 upgrades from rate

12 base, wouldn't LPSCO be free to essentially remove \$3,500

13 worth of those upgrades from the plant -- \$3.5 million of

14 upgrades from the plant?

15 A. Well, like I said before, 3 1/2 million isn't

16 half of the test year upgrades. I mean, there were -- with

17 that clarification -- I guess I'll answer the question this

18 way. I mean, the company is free to add or subtract plant

19 at will, as long as the plant -- as long as -- the company

20 is free to add or subtract pieces of plant at will, as long

21 as the plant in total can provide reliable and effective

22 service to the customers.

23 So whether this recommendation is adopted or

24 not, I don't really see that it has an affect.

25 Q. So would you be okay if LPSCO decided to go out

Page 103

1 and dismantle \$3.5 million worth of the upgrades and sell

2 them for salvage?

3 A. Well, I'll say that if LPSCO were to do that and

4 the service provided to customers was unchanged, then, I

5 think that would prove that my recommended disallowance was

6 valid.

7 Q. But would you have any problem if LPSCO did that?

8 A. It would depend on whether the -- you know, the

9 service to the end-use customers was affected. If it was

10 not affected, I'd have no problem with it.

11 Q. If the quality of service remained the same,

12 LPSCO could go ahead and remove \$3.5 million of the upgrades

13 and salvage them or sell them. That's what you're saying;

14 correct?

15 A. That's correct.

16 Q. Okay. And if the Commission prevented LPSCO from

17 doing that, would you agree that that would be a

18 confiscation of LPSCO's property?

19 MS. WOOD: Objection.

20 BY MR. WILEY:

21 Q. If you know.

22 If he doesn't know, Michelle, he can just say

23 he doesn't know.

24 MS. WOOD: Well, it calls for a legal

25 conclusion.

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1 MR. WILEY: But you're making a speaking

2 objection.

3 MS. WOOD: And the other point I'd like to

4 bring up is we said we'd take a break at 12:00, and it's

5 12:02.

6 MR. WILEY: I'm almost done here with this

7 line.

8 THE WITNESS: Yeah. I can't speak to

9 confiscate. I believe that's a legal term, and I don't want

10 to offer an opinion on it.

11 BY MR. WILEY:

12 Q. Do you have an understanding, as a rate base

13 analyst, as to what constitutes confiscation of a regulated

14 utilities property?

15 MS. WOOD: Objection. Calls for a legal

16 conclusion.

17 MR. WILEY: I'm asking for his understanding.

18 BY MR. WILEY:

19 Q. Do you have an understanding as to what is a

20 confiscation of a utilities property?

21 A. I understand that it's a legal term.

22 Q. Okay. Do you know what it is besides that?

23 A. I mean, I understand the concept, but I'm not --

24 I'm not in a position to offer legal opinions.

25 Q. You would agree that if the Commission excludes

Page 105

1 used and useful plant from rate base, then, utilities are

2 going to be reluctant to spend capital on necessary

3 improvements; agreed?

4 MS. WOOD: Objection. Asked and answered.

5 Go ahead and answer.

6 THE WITNESS: What was the last part of your

7 question there?

8 BY MR. WILEY:

9 Q. If the Commission excludes used and useful plant

10 upgrades from rate base, would you agree that utilities

11 would be reluctant to spend capital on necessary upgrades

12 for the utilities?

13 A. Well, it really depends on the facts that

14 prevailed in the particular case where the Commission made

15 that decision.

16 Q. How about as a general -- as a general matter,

17 Mr. Rowell, based upon your experience, if the Commission

18 excludes all or a portion of used and useful plant upgrades

19 installed by a utility, would you agree that a utility will

20 then be less likely in the future to spend capital to

21 install upgrades in facilities for its company?

22 MS. WOOD: Objection. Speculation.

23 BY MR. WILEY:

24 Q. You would agree with that as a general matter;

25 correct?

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1 A. As a general matter, yes. I mean, clarifying
2 that in your rephrasing of the question, you didn't use the
3 word "necessary improvements." Just improvements in
4 general.

5 Q. If I asked the same question with respect to
6 necessary improvements, would you agree that if the
7 Commission excludes used and useful plant for necessary
8 upgrades installed to a utility from rate base, that that
9 utility will be less likely to spend capital to fix
10 improvements and upgrades in the future?

11 MS. WOOD: Objection. Speculation.

12 BY MR. WILEY:

13 Q. You would agree with that as a general policy;
14 agreed?

15 A. Well, if an upgrade is necessary, by definition,
16 I don't believe the utility has a choice.

17 Q. If the utility installs necessary upgrades, can
18 the Utility Commission -- can the Corporation Commission,
19 then, exclude portions of that -- of those facilities or
20 upgrades from rate base?

21 MS. WOOD: And I think objection. Calls for
22 a legal conclusion.

23 THE WITNESS: Well, as a general matter, yes.

24 BY MR. WILEY:

25 Q. So what you're saying is that the Corporation

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1 Commission can require a utility to install necessary
2 upgrades to a plant, but then, deny the value of those
3 upgrades from rate base?

4 MS. WOOD: Object.

5 BY MR. WILEY:

6 Q. Or deduct the value of those upgrades from rate
7 base?

8 MS. WOOD: Objection. Speculation. Calls
9 for a legal conclusion.

10 BY MR. WILEY:

11 Q. Is that what you're saying?

12 A. No.

13 Q. What are you saying, then?

14 A. Your question indicated that the Commission
15 ordered -- that the Commission could order the company to
16 make specific upgrades, and I don't believe that's what we
17 were talking about.

18 Q. We're talking about different things here,
19 Mr. Rowell.

20 A. That's what I'm saying, yes.

21 Q. Okay. Let's assume for purposes of this question
22 that the upgrade -- let's just talk hypothetically with
23 respect to LPSCO. Let assume the 2000 in upgrades (sic)
24 were necessary upgrades for the plant to improve the
25 liability and operations. Okay? Can you make that

Page 108

1 assumption?

2 A. I'll make that assumption, yes.

3 Q. Okay. If LPSCO then goes ahead and spends
4 \$7 million in capital to install those necessary upgrades in
5 plants, you would agree that such upgrades in plants would
6 be used and useful for utility operations; correct?

7 MS. WOOD: Objection. Calls for a legal
8 conclusion, speculation.

9 THE WITNESS: Well, given your assumption,
10 yes, we would call it used and useful.

11 MR. WILEY: You guys can go break if you
12 want.

13 MS. WOOD: Thanks.

14 (Lunch recess taken, 12:08 - 1:05.)

15 MR. WILEY: Okay. Back on the record.

16 BY MR. WILEY:

17 Q. Mr. Rowell, who hired you from RUCO for purposes
18 of the LPSCO case?

19 A. You mean who selected DMAS?

20 Q. Yeah. Who called you and asked you to be a
21 witness on this case?

22 A. Well, we got a copy of the proposal, or of the
23 RFP that RUCO put out, and we responded to it. I believe it
24 was Dan Puzefsky who actually contacted me to tell me that
25 we had won the -- or we were going to be awarded the bid.

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1 Q. Okay. What was your scope of services? What is
2 your scope of services for RUCO? What did they ask you to
3 do in this case?

4 A. You know, to provide the testimony, you know,
5 necessary for their participation in the case.

6 Q. On what issues did they ask you to submit
7 testimony on?

8 A. You know, I don't know if we sat down and laid
9 out a list of exactly what issues would be testified on. It
10 was made clear that Mr. Rigsby would do the cost of capital
11 analysis; but other than that, we didn't -- sitting here
12 today, I don't recall, you know, anything specific.

13 Q. Did anybody at RUCO ask you to review LPSCO's
14 documents and come up with arguments for reductions from a
15 rate base?

16 A. No.

17 Q. Did you just do that on your own?

18 A. Well, I mean, I believe it was understood at
19 least that we would analyze the case and make
20 recommendations. So I don't -- I don't think I can agree
21 that we just did it on our own. I mean, we did it under our
22 capacity of analyzing the case and making recommendations.
23 There was no specific directive from RUCO to, you know, find
24 rate base disallowances. It was more the general directive
25 of analyze the whole case and come up with recommendations.

28 (Pages 106 to 109)

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1 Q. How did you come up with the idea to reduce
2 \$3.5 million in the rate base for design errors?
3 MS. WOOD: Objection. Asked and answered.
4 THE WITNESS: Well, yeah. I -- there's
5 really nothing to add beyond what I've said. It was based
6 on a reading of the testimony and a reading of the -- the
7 engineering report that we discussed this morning.
8 BY MR. WILEY:
9 Q. Okay. Let's talk about affiliate costs.
10 Incidentally, Mr. Rowell, if we refer back to page 2 of your
11 testimony, there's a typo on page 2; right?
12 A. (No audible response.)
13 Q. In your first answer you say:
14 I obtained and reviewed data and
15 performed analytical procedures
16 (including an audit of underlying source
17 data) necessary to understand the
18 Company's filing as it relates to the
19 rate base, operating income and revenue
20 requirements.
21 You don't have any recommendations regarding
22 operating income and revenue requirements; correct?
23 A. That's correct. But the statement is still true.
24 Q. Okay. And then, in your second answer on page 2
25 you state:

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1 I will address RUCO's recommended
2 adjustments based primarily on an audit
3 of underlying source data. I present
4 RUCO's recommended rate base, revenue
5 requirement and rate design.
6 MS. WOOD: What lines are you on, Mr. Wiley?
7 MR. WILEY: That's 13 and 14.
8 BY MR. WILEY:
9 Q. That's a typo; right?
10 A. Those first two lines are a typo.
11 Q. You're not addressing RUCO's recommended
12 adjustments or recommended rate base revenue requirement and
13 rate design; fair?
14 A. Fair. It looks like there was some -- the
15 paragraph was switched between two.
16 Q. And the next line says:
17 The issue of affiliate expenses and
18 upgrades to the Palm Valley Reclamation
19 Facility are addressed in the testimony
20 of RUCO witness Matt Rowell.
21 A. That's correct.
22 Q. That's a typo; right?
23 A. (Nods head affirmatively.)
24 Q. Okay.
25 A. Like I said, it appears as if that paragraph was

Page 112

1 switched with --
2 MS. WOOD: Are you on page 2, folks?
3 MR. WILEY: Uh-huh.
4 THE WITNESS: That's the one.
5 MS. WOOD: Okay.
6 BY MR. WILEY:
7 Q. Essentially what happened here, I think,
8 Mr. Rowell, is that probably a paragraph out of Miss -- your
9 wife's or Mr. Rigsby's testimony was transposed into your
10 testimony; fair?
11 A. That's what it looks like, yes.
12 Q. Okay. With respect to affiliate cost,
13 Mr. Rowell, you agree that a shared services approach
14 centralizes common costs and spreads those costs across
15 several companies under an affiliate structure; correct?
16 A. Generally speaking, yes.
17 Q. Okay. And you would also agree that a shared
18 cost method yields lower cost to individual utilities
19 because those costs are spread over multiple utilities
20 instead of one stand-alone utility; correct?
21 A. In most circumstances and when the allocations
22 are done appropriately, yes.
23 Q. Okay. Would you also agree that without a shared
24 services model, LPSCO would incur auditing or tax -- costs
25 for auditing or tax services on a stand-alone basis? Do you

Page 113

1 understand what I'm asking?
2 A. Yes. I'd agree there would be such costs.
3 Q. In other words, if LPSCO didn't receive auditing
4 tax services and other services from a parent company, LPSCO
5 would have to incur those costs itself; agreed?
6 MS. WOOD: Objection. Are you talking about
7 auditing or taxes?
8 MR. WILEY: I think the question --
9 BY MR. WILEY:
10 Q. You understood the question; right?
11 A. I think I understand. I mean, by auditing, you
12 mean hiring an independent auditor as required?
13 Q. Yes.
14 A. Well, I'll be honest with you. I don't really
15 know what the required -- what auditing requirements there
16 are and how they change with respect to the use of a shared
17 services model. So I'll just say I don't know. With
18 respect to tax -- taxes, if the company's not -- if the tax
19 return is being filed on a consolidated basis, then, yes,
20 there's no direct cost to LPSCO resulting from the
21 preparation of a tax return if it's done on a consolidated
22 basis with other companies. That cost moves to a different
23 level.
24 Q. Do you agree that it is a good idea for utilities
25 operating under an affiliate structure to employ a shared

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1 services model under which a parent company or affiliate of
2 the regulated utility provides operating and support
3 services for the regulated utility, including use of shared
4 services for administration, billing and collection, capital
5 budgeting and planning, resource management, operation and
6 maintenance, construction management, and other related
7 services?

8 MS. WOOD: Objection. Compound.

9 THE WITNESS: Well, I forgot what the first
10 part of your question was. But I'd agree that -- I don't
11 have any problem with a shared services model, let's put it
12 that way.

13 BY MR. WILEY:

14 Q. Okay.

15 A. I'm not alleging that, in general, there's any
16 issues with the use of a shared services model.

17 Q. And you haven't submitted any opinion -- well,
18 let me ask it this way. You don't have any objections to
19 the shared services methodology employed by LPSCO in this
20 case; correct?

21 A. Well --

22 Q. And I'm talking about the methodology as opposed
23 to individual items inside the methodology.

24 A. With respect to the allocations from Algonquin
25 Water Services, it appears that the methodology I just

Page 116

1 head here.

2 Q. Did you know that it's essentially a split by the
3 number of companies involved in the cost? In other words, I
4 believe there are 67 assets and companies owned by
5 Algonquin, and 49 of those are electric companies and 19 of
6 those are sewer and water companies. So the way the
7 allocation was made is that 16 -- I have those numbers
8 wrong. But basically, it's the number of water companies
9 divided by the total number of companies yields a percentage
10 of affiliate costs.

11 A. Yeah. I honestly can't say if that's -- if
12 that's how it's done or not. I --

13 Q. If we assume that that's how Algonquin did it, do
14 you have any problems with allocating costs to the electric
15 companies versus the sewer and the water companies?

16 A. You're asking whether it was just simply done on
17 the number of companies?

18 Q. Yes.

19 A. So if there are 10 of each, it would be a 50/50
20 split?

21 Q. Yes.

22 A. This isn't an issue that I've considered. But
23 off the top of my head, I can -- you know, for what it's
24 worth -- before I could say that that is an appropriate
25 method, there's a lot of questions I'd have to ask, let's

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1 described is okay. I'm not sure about the allocations made
2 from I believe it was Algonquin Power Trust.

3 Q. And the reason you're unsure about Algonquin
4 Power Trust is you just have some questions about supporting
5 data for the allocations and things of that nature; agreed?

6 A. Well, no. I guess it goes beyond that. I'm just
7 not a hundred percent clear on what the allocation method
8 is. I could be more specific if you want.

9 Q. What is your understanding as to the affiliate
10 cost allocation methodology used by LPSCO?

11 A. For?

12 Q. For Algonquin Power Trust.

13 A. For Algonquin Power Trust? Well, I'll speak in
14 general terms. A certain amount of these costs are
15 allocated between the -- or they're split between the water
16 and sewer companies and the energy companies. And then,
17 that portion that's assigned to the water and sewer
18 companies is distributed amongst those companies based on
19 customer count. Now, I'm not clear on the first part of
20 that and on how the two are split, so --

21 Q. How would you recommend that the split occur with
22 respect to the water and sewer versus the electric
23 companies?

24 A. I haven't -- I haven't thought about that, and so
25 I can't offer a recommendation like that off the top of my

Page 117

1 put it that way.

2 Q. So you haven't looked at those issues with
3 respect to your testimony in this case on affiliate costs?

4 A. My focus was not the split between the electric
5 and water slash wastewater.

6 Q. What cost allocation principles or guidelines
7 should utilities utilize in allocating costs among the
8 affiliates for shared services?

9 A. (Unintelligible.)

10 THE REPORTER: I'm sorry?

11 THE WITNESS: N-A-R-U-C.

12 MR. WILEY: NARUC.

13 BY MR. WILEY:

14 Q. The NARUC guidelines?

15 A. Yes.

16 Q. Okay. Any other guidelines or principles that
17 you think should be applied by utilities in allocating
18 shared services, cost for shared services?

19 A. Well, to the extent it's not covered in NARUC,
20 the -- the -- well, I can't -- no, I'm not going to point to
21 specific guidelines. We based our determination on the --
22 on NARUC.

23 Q. Did you apply the NARUC guidelines to LPSCO?

24 A. To be specific, we looked at the information
25 included in the NARUC. I don't remember the exact name of

30 (Pages 114 to 117)

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1 the document. It's -- staff cited us a different document,
2 but it's basically the NARUC System of Accounts where they
3 lay out the accounting guidelines. And it might just be
4 called the NARUC System of Accounts.

5 Q. Let me show you this document, which is entitled,
6 "Guidelines for Cost Allocations and Affiliate
7 Transactions."

8 A. Yes.

9 Q. Are those the guidelines you're talking about?

10 A. No.

11 Q. Okay. So what are you talking about?

12 A. NARUC publishes a document called the -- I
13 believe it's called the NARUC System of Accounts. The exact
14 name of the document escapes me at this point.

15 Q. Weren't these guidelines developed by NARUC,
16 Mr. Rowell?

17 A. Yes, they were.

18 Q. Okay. So you don't think these guidelines apply?

19 A. Oh, no, I did not say that. I just said --

20 Q. Okay.

21 A. I wasn't aware of these guidelines at the time we
22 put the testimony together.

23 Q. So what NARUC guidelines did you use in
24 formulating your opinions?

25 A. It was the NARUC System of Accounts.

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1 Q. Okay.

2 A. It was a general document that outlines how --
3 there's one for water, there's one for sewer, there's one
4 for other types of utilities, as well. But it's a document
5 that NARUC publishes.

6 Q. Did you bring those with you today?

7 A. No, I did not.

8 Q. Okay. Will you agree to provide those to me?

9 A. I don't -- I mean, you can purchase them from
10 NARUC. In other words, I don't know -- NARUC sells these
11 documents.

12 Q. Well, you have them at home; do you not?

13 A. I do.

14 Q. Okay. Can you make a copy of them and send them
15 to me?

16 A. Well, yeah. I don't know if there's a copyright
17 issue there or not since NARUC -- so yeah, again -- so if
18 it's -- if there's no copyright issue, we can do that. I
19 don't -- yeah, I'm being honest. I don't know if --

20 MS. WOOD: That's fine.

21 THE WITNESS: Yeah.

22 MS. WOOD: You've answered the question.

23 BY MR. WILEY:

24 Q. Yeah. I mean, I guess I'm sort of trying to work
25 through that, Matt, because I'm entitled to see what

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1 documents you used in formulating your opinions. And so as
2 a matter of your role as a consulting, testifying witness in
3 the case, you have to give me those.

4 MS. WOOD: We'll make them available to you.

5 If they're subject to copyright, we'll figure it out and --

6 THE WITNESS: Yeah.

7 MS. WOOD: -- and get that out.

8 MR. WILEY: Let's go off the record for a
9 minute.

10 (Discussion off the record.)

11 MR. WILEY: Back on.

12 BY MR. WILEY:

13 Q. Okay. So what you said, Mr. Rowell, is that you
14 relied on the NARUC System of Accounts for your review of
15 the affiliate cost issues with respect to LPSCO; correct?

16 A. That's correct.

17 Q. Okay. And what guidelines within the NARUC
18 System of Accounts did you apply to LPSCO?

19 A. Well, there's a statement in there that, you
20 know, I don't recall verbatim. I don't recall what section
21 it is in the -- you know, where exactly it is in the
22 document. But it's a -- there's a general statement in
23 there about the standards that apply in the evaluation of
24 operating costs.

25 Q. Does LPSCO comply with the NARUC System of

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1 Accounts that you're talking about?

2 A. With respect to the affiliate costs, I would say
3 no.

4 Q. Okay. In what respect does LPSCO not comply with
5 the NARUC System of Accounts on affiliate cost allocation?

6 A. Again, I don't have the document in front of me.

7 I don't remember it verbatim. But if you look at -- for
8 instance, if you look at -- let's just talk about the

9 management fees with respect to APT. The underlying source
10 documentation does not contain any of the detail that the
11 NARUC System of Accounts indicates should be there.

12 Q. Like what kind of detail?

13 A. Well, since the underlying source documentation
14 essentially contains no detail, I mean, any detail -- I

15 mean, but the -- again, I don't have the NARUC document in
16 front of me.

17 Q. You understand that LPSCO provided copies of
18 invoices above \$5,000; correct?

19 A. With respect specifically to the management fees,
20 we have invoices that show that. APT sent a bill to LPSCO.

21 Q. Okay.

22 A. That's all we have.

23 Q. What more do you want?

24 A. Well, we need to know what those -- what does
25 that bill represent. In other words, you get, let's say, a

31 (Pages 118 to 121)

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1 \$10,000 bill from APT. What services were actually provided
2 in exchange for that \$10,000? How many hours of work did an
3 APT employee put in to make up that \$10,000? What rate are
4 these employees charging out at? I mean, these are
5 examples; but essentially, some underlying detail that shows
6 what was done at the APT level. You know, for instance, for
7 a nonaffiliate — say you hire an unaffiliated engineer to
8 do some work. You can look at the invoice, and the invoice
9 will tell you what sort of work was done.

10 Q. Anything else?

11 A. Well, I guess that's my — well, no. I'm
12 finished.

13 Q. LPSCO provided you with a description of the
14 costs that were provided by APT for particular services;
15 correct?

16 A. I've seen that, yes.

17 Q. Okay. And this document is entitled, "Corporate
18 Cost Allocation Based on 2008 Budget, Infrastructure
19 allocation for the Utility Division." You've seen this
20 document before; correct?

21 MS. WOOD: Mr. Wiley, may I have a copy of
22 that?

23 MR. WILEY: I don't have an extra copy of
24 this.

25 MS. WOOD: Okay.

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1 THE WITNESS: Well, from across the table, it
2 looks like the same document I looked at earlier.

3 MR. WILEY: Do you want me to get you copies?

4 THE WITNESS: Yeah.

5 MS. WOOD: I don't know how much more you
6 have in terms of questions. If I could just look at it —

7 MR. WILEY: Yeah.

8 MS. WOOD: — for a minute, that would be
9 great.

10 MR. WILEY: I'll get you a copy. I'll be
11 right back.

12 (Recess taken, 1:27 - 1:28.)

13 BY MR. WILEY:

14 Q. Okay. You've now got a copy of that document;
15 correct, Mr. Rowell?

16 A. Yes.

17 MS. WOOD: Is this going to have an exhibit
18 number, Mr. Wiley?

19 MR. WILEY: No.

20 BY MR. WILEY:

21 Q. And you see on the right side of this document,
22 there is a description for the nature of expense provided by
23 APT down to LPSCO. That's your understanding; correct?

24 A. That's my understanding.

25 Q. Okay. And the first description for "Rent" says,

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1 "Rent for the Office in Oakville Ontario Canada." Do you
2 see that description?

3 A. That's correct.

4 Q. Do you need more information than that as to
5 what's being allocated down for rent from the parent
6 company?

7 A. Well, yes. I mean, rent invoice — well, and you
8 have provided rent invoices.

9 Q. Okay.

10 A. So —

11 Q. So have you been provided with all information
12 you need on the rent?

13 A. Well, all the information I need to do what?

14 Q. To evaluate whether the rent was properly
15 allocated down from the parent company.

16 MS. WOOD: Objection. I just want to
17 interject one thing. Mr. Rowell's testifying here today
18 based on testimony provided to date. We specifically
19 reserve the right to interpose any position that comes to
20 light based on discovery or subsequent review of
21 documentation in surrebuttal. So we're not waiving any
22 argument we could make in the future.

23 BY MR. WILEY:

24 Q. Let's try it this way, Mr. Rowell. Let's go
25 through your testimony. Maybe we'll try it that way. Okay?

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1 A. I mean, I could try to clarify my position to get
2 at the concern I have with answering you directly.

3 Q. Sure. Go ahead.

4 A. And it's — the underlying — there's two
5 questions here. The first question is: Were the
6 allocations done properly? And the second question is:
7 Should the allocations be done at all?

8 Q. Okay.

9 A. And I believe you're asking me about the first
10 one.

11 Q. Fair.

12 A. But my answer is — but my hesitation is based on
13 the second question, you know. Should these allocations be,
14 you know, provided to LPSCO at all?

15 Q. Is it your position, Mr. Rowell, that some
16 allocations should not be made down to LPSCO?

17 A. I think that's clear in my testimony.

18 Q. Okay. Which ones should not be made down to
19 LPSCO?

20 A. I recommended a disallowance of all of the APT.
21 So basically — I don't want to say all the numbers on this
22 page, because the numbers on this page don't match with
23 what's on LPSCO's general ledger. But essentially, the APT
24 allocations.

25 Q. And on what basis did you disallow all of those

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1 affiliate costs being passed down to LPSCO?
 2 A. LPSCO did not make the case that -- that the
 3 allocations should be made to LPSCO. In other words, how is
 4 it -- the question, "How is it that LPSCO benefits from the
 5 provision of the services associated with these costs?" that
 6 question hasn't been answered.
 7 Q. Well, you would agree that APT provides
 8 administrative services to LPSCO; correct?
 9 A. I don't know that.
 10 Q. What services do you think APT provides to LPSCO?
 11 MS. WOOD: Objection. Asked and answered.
 12 THE WITNESS: It's not clear to me.
 13 BY MR. WILEY:
 14 Q. You've rejected all of the affiliate cost
 15 allocations from APT because it's not clear to you what
 16 services were provided by APT? Do I have that correct?
 17 A. I would not characterize it that way, no.
 18 Q. Well, how would you characterize it?
 19 A. The company has not made the case that any
 20 services that are necessary for the provision of utility
 21 services are being provided by APT.
 22 Q. Okay. What documentation or information does
 23 LPSCO need to provide to you to satisfy you on those issues?
 24 A. Provide some evidence that the utility benefits
 25 from these services.

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1 Q. Okay. With respect to rent, what does LPSCO need
 2 to provide you to show you that the rent benefited LPSCO?
 3 A. Show me something that indicates that LPSCO
 4 benefits from the rent at the Ontario office.
 5 Q. Like what? What do you need? Literally,
 6 Mr. Rowell, I'm asking you what you need.
 7 A. Some indication that the work that is done at the
 8 Ontario office benefits the utility.
 9 Q. Do you know -- financing's provided by the parent
 10 company for LPSCO; correct?
 11 A. I don't know which LPSCO affiliate provides
 12 financing.
 13 Q. Okay. The tax returns are filed on a
 14 consolidated basis by the parent company; correct?
 15 A. I don't know which LPSCO affiliate files the tax
 16 returns.
 17 Q. If APT provides those financing or tax services
 18 on behalf of LPSCO, those would benefit LPSCO? Those
 19 services would benefit LPSCO; agreed?
 20 MS. WOOD: Objection. Speculation.
 21 THE WITNESS: If those specific services are
 22 provided, then, yes.
 23 BY MR. WILEY:
 24 Q. Okay. Same thing with respect to legal services
 25 provided at the parent level. If those legal services were

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1 necessary to allow APT or another affiliate entity to
 2 provide financial or tax or auditing services, those legal
 3 services would benefit LPSCO; agreed?
 4 MS. WOOD: Objection. Speculation.
 5 THE WITNESS: Again, I -- well, given your
 6 example, yes, there would be some benefit to LPSCO. Now, I
 7 can't make any determination that that benefit corresponds
 8 with the cost that's, you know, indicated here.
 9 BY MR. WILEY:
 10 Q. Well, what would you need to make that
 11 determination? What information should be provided to you
 12 by the company for you to make that determination?
 13 A. Well, we're talking about financing and taxes,
 14 you know. Indicate how much time -- if we are talking about
 15 legal services, how much time did, you know, this attorney
 16 spend dealing with the financing and the taxes. And if it's
 17 done on -- if that's done on a consolidated basis, then, you
 18 can allocate it out to the utilities.
 19 Q. And the allocation would be based on what, in
 20 your mind, to the utilities? How would you allocate those
 21 costs?
 22 A. I mean, there are different ways to allocate
 23 costs.
 24 Q. How would you do it?
 25 A. I'm not doing it.

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1 Q. Well, I know, but --
 2 A. I mean, in my capacity as a consultant for RUCO,
 3 I'm not going to do that. So my answer would be I would not
 4 do it.
 5 Q. Okay. If we look at the description for "Audit
 6 Services" on this sheet, Matt, it says, quote, Audit fees
 7 and Quarterly Reviews relating to the entire Income Fund.
 8 This is essential as we are publicly traded with access to
 9 the capital markets. Do you see that?
 10 A. Yes.
 11 Q. The parent company's access to capital markets
 12 benefits LPSCO; agreed?
 13 A. Excuse me? I'm sorry.
 14 Q. The parent company's access to capital markets
 15 benefits LPSCO; agreed?
 16 A. Agreed.
 17 Q. Okay. The "Tax Services" line says, quote, Tax
 18 services, tax provision calculations, tax return preparation
 19 and support in order to remain tax compliant. Do you see
 20 that?
 21 A. I see that.
 22 Q. Okay. The tax services provided by the parent
 23 company to LPSCO benefits LPSCO; doesn't it?
 24 A. I don't know whether these tax services listed
 25 here pertain to LPSCO. I mean, are these tax services -- is

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1 this the consolidated utility taxes or is this the parent's
2 taxes? I --

3 Q. But they're filed on a consolidated basis as one
4 tax return for all of the affiliates. You understand that;
5 correct?

6 A. I understand that. But I don't know if that
7 service is provided by APT or if this is some other tax
8 service that's being referred to here.

9 Q. You were provided invoices on the tax services;
10 weren't you?

11 A. I believe there's invoices for these, yes.

12 Q. Okay. And what do those invoices show?

13 A. I don't recall.

14 Q. Okay. Let's look at the description for
15 "Management Fee." It says, quote, Provide management
16 services including strategic advice and consultation
17 concerning business planning, support, guidance and policy
18 making and general services. These expenses are critical to
19 ensure the ongoing health and sustainability of the Income
20 Fund and thus LPSCO. Do you see that?

21 A. I see that, yes.

22 Q. Okay. You would agree that to the extent the
23 management is able to ensure the viability of the parent
24 corporation which provide funding -- which provides funding
25 to LPSCO will benefit LPSCO; right?

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1 A. The extent to which the management will do what?

2 Q. Let me rephrase that.

3 The extent to which the management of the
4 parent company makes decisions that make the overall health
5 of the parent company benefit better, that's a benefit to
6 LPSCO; agreed?

7 MS. WOOD: Objection. Speculation.

8 THE WITNESS: Not necessarily.

9 BY MR. WILEY:

10 Q. Why not?

11 A. LPSCO operates as a stand-alone utility out in
12 Litchfield Park. I just don't see how the health of the
13 over -- or making the overall company better off benefits
14 LPSCO at all.

15 Q. Wouldn't that ensure better financing and better
16 access to capital for investments in the company?

17 MS. WOOD: Objection. Speculation.

18 THE WITNESS: It might. It might not. You
19 know, if you go out and look for financing for LPSCO, the
20 financiers are going to look at LPSCO.

21 BY MR. WILEY:

22 Q. You don't think it helps to have a healthy
23 financially capable parent company backing the utility?

24 A. Well, your original question was -- well, let's
25 put it this way. You've changed the question slightly. The

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1 original question was: Would making the parent company
2 better help LPSCO? Now the question is: Does a healthy
3 parent help LPSCO? And yes, a healthy parent helps LPSCO.

4 Q. Is LPSCO going to get better financing terms on
5 its own or with the assistance of its parent company?

6 MS. WOOD: Objection. Speculation.

7 THE WITNESS: Yeah. I really don't know.

8 BY MR. WILEY:

9 Q. If APT was providing management services for
10 LPSCO, which included strategic advice regarding business
11 planning, support and policy, would you agree that those
12 services would benefit LPSCO?

13 MS. WOOD: Objection. Speculation.

14 THE WITNESS: I would say that that
15 characterization is too vague to make any sort of -- to base
16 any conclusion on.

17 BY MR. WILEY:

18 Q. Well, what specific information would you need to
19 support that?

20 A. To support what?

21 Q. What information would you need to conclude that
22 management services provided by APT were for the benefit of
23 LPSCO?

24 A. Some indication of what type of work was actually
25 performed.

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1 Q. What do you mean by that? Tell me specifically
2 what you mean.

3 A. I mean "strategic advice and consultation" could
4 mean anything. That could mean, you know, we sat down and
5 had lunch and talked in vague terms about LPSCO. It could
6 also mean that, you know, we had studies commissioned and we
7 seriously got in and analyzed LPSCO's situation, or it could
8 mean something else. I don't know. The point is, what
9 exactly was done?

10 Q. Would it suffice for you if the company provided
11 an explanation of exactly what those services were as they
12 relate to LPSCO?

13 A. I mean, it would depend on the explanation. This
14 purports to be an explanation, what I hold in my hand here,
15 and it really isn't.

16 Q. What more do you need than the information
17 provided in that document you're looking at?

18 A. I mean, frankly, Mr. Wiley, you're using the word
19 "information" very liberally here. I mean, there
20 essentially is almost no information in this document. It's
21 two sentences, both of which are extremely vague. And
22 that -- this is -- this is the -- this is all the company
23 has provided to support these management fees, which are the
24 largest -- the largest component of the APT allocations are
25 these management fees. We're talking several hundred

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1 thousand dollars worth of expenses, and we have two vague
2 sentences to support them.

3 Q. Where do you conclude that there's several
4 hundred thousand dollars in management fees? Doesn't this
5 document say that there's \$83,000 in management fees
6 allocated to LPSCO?

7 A. If you look at the company's general ledger, we
8 have a different number. So we have that problem, too.

9 Q. Show me the general ledger that you're referring
10 to.

11 A. Let's see where we are. Management Fees,
12 \$456,593. It's page 10 of my testimony.

13 Q. You said 456,593? Is that what you said?

14 A. Yes.

15 Q. Okay. Where did you get those numbers from?

16 A. They're out of the company's general ledger.

17 Q. Okay.

18 A. And also, supporting information provided in
19 response to the staff's first set of data requests.

20 Q. Do you know whether those management fees were
21 trued up fees as a result of LPSCO's cost allocation
22 methodology that had adopted during the test year?

23 A. I believe the new -- or as the company described
24 it, the new allocation methodology applied to AWS and not to
25 APT.

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1 Q. On what do you base that understanding,
2 Mr. Rowell?

3 A. That's based on a reading of the testimony
4 provided. It's based on trying to reconcile the -- okay.
5 Yeah, yeah, I'll be more specific. There was a data
6 request. I don't remember -- I don't recall the -- the
7 number, but I did ask to -- for a data request showing me
8 the differences between the new and the old allocation
9 methodology. Okay? And in response to that data request,
10 the company showed me the old allocation methodology for AWS
11 and the new allocation methodology for AWS, but did not
12 mention APT at all. So --

13 Q. Let me show you what -- I'll have this one
14 marked. Let her mark that one, Matt.

15 (Deposition Exhibit No. 4 was marked for
16 identification.)

17 MR. WILEY: Okay. This is 4?

18 THE REPORTER: Yes.

19 MR. WILEY: We've only marked four?

20 BY MR. WILEY:

21 Q. What I've shown you that has been marked as
22 Exhibit 4 is the September 25, 2009, response of LPSCO to
23 RUCO's Second Set of Data Request, Request No. MJR 2.4. Do
24 you see that?

25 A. Yes.

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1 Q. Okay. If you turn to the -- or actually,
2 starting at that last paragraph on the first page, it says,
3 "If any engineering services from Algonquin Power Systems
4 are needed, all labor is charged out at standard rates to
5 recoup the cost of labor, burden, and administration
6 overhead costs, period." You see that sentence; correct?

7 A. Correct.

8 Q. Okay. The next sentence says, quote, Algonquin
9 Power Trust charges a fixed fee to all the utilities based
10 on the number of facilities in the Algonquin group to recoup
11 its administration costs. The utility group then apportions
12 its share of APT costs to each facility via customer count,
13 end quote. Do you see that?

14 A. I do see that, yes.

15 Q. Okay. So how is it your understanding that
16 LPSCO's not allocating APT costs when this data request says
17 that they are?

18 A. I never said that I understood that they were not
19 allocating APT costs.

20 Q. Okay. Then, tell me what you were saying with
21 respect to APT, because I'm not following you.

22 A. You asked me whether the APT allocations could
23 have changed as a result of the new methodology. And my
24 testimony was that my understanding was that the APT
25 method -- the APT allocations haven't changed, or at least

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1 the company hasn't stated that the APT allocations have
2 changed recently, or that the APT allocation methodology has
3 changed lately.

4 MR. WILEY: Let's take a five-minute break.
5 Off the record.
6 (Recess taken, 1:49 - 1:52.)
7 BY MR. WILEY:

8 Q. Let's backtrack a minute, Matt. You had made
9 references to the cost allocations in the general ledger;
10 correct?

11 A. Well, the actual -- that's probably not the
12 correct way to say it. You don't really see the cost
13 allocations in the general ledger. What you see in the
14 general ledger are the transactions that actually hit LPSCO.
15 In other words, the bills that are actually sent to LPSCO by
16 outside parties.

17 Q. And the cost numbers included on the general
18 ledger are estimated amounts; correct?

19 A. Well, no. They're actual amounts. You know,
20 if --

21 Q. Is it your understanding that those are actual
22 amounts and not estimated budget amounts that are compiled
23 at the beginning of the year?

24 A. The general ledger provided by -- provided for
25 the test year in the rate case is purported to be actual

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1 test year expenses.
 2 Q. So it's your assumption that the amounts listed
 3 on the general ledger are actual amounts as opposed to
 4 estimated budget amounts?
 5 A. If we're talking about the general ledger that
 6 was provided for the test year, yes.
 7 Q. Okay. Do you know whether Exhibit 4 includes the
 8 actual cost allocations for LPSCO? In other words, at the
 9 end of the test year, were you aware that the company went
 10 through and determined the actual costs that were incurred
 11 by APT and, then, allocated those actual costs down to LPSCO
 12 as set forth on Exhibit 4?
 13 A. I'm sorry. You said "Exhibit 4," but you held up
 14 this document. So which one are you referring to?
 15 Exhibit 4 is --
 16 Q. Oh, sorry. You're right. You're right.
 17 Let me have you mark that one. Let me have
 18 her do that one as Exhibit 5.
 19 (Deposition Exhibit No. 5 was marked for
 20 identification.)
 21 BY MR. WILEY:
 22 Q. Let's backtrack a minute, Matt. Pull up your
 23 testimony here. Let's go to page 7.
 24 Okay. On page 7 of your testimony, you've
 25 got a line that references the new cost allocation

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1 case as it was presented. I didn't speculate on what might
 2 happen in the future.
 3 Q. Okay. On the bottom of page 7, the last
 4 paragraph --
 5 A. Can I interrupt you? Can we lower this a little
 6 because the sun is bouncing off that building and it's
 7 getting right in my -- the center one.
 8 Q. The middle one?
 9 (Discussion off the record.)
 10 BY MR. WILEY:
 11 Q. The last paragraph of page 7 of your testimony,
 12 it says, quote:
 13 The Company's response to MJR 3.3(b)
 14 indicates that in addition to
 15 reallocating the affiliate costs,
 16 \$136,903 in additional affiliate costs
 17 were allocated to the various Algonquin
 18 owned water and wastewater companies
 19 under the new allocation method.
 20 Do you see that statement?
 21 A. I do see that, yes.
 22 Q. And then, on the next page of the testimony, you
 23 state, quote:
 24 I have been unable to determine the
 25 source of this \$136,903 increase in

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1 methodology used by Algonquin on its various rate cases. Do
 2 you see that line?
 3 A. I'm having trouble. What line are we on?
 4 Q. Lines 5 and 6.
 5 A. That's correct.
 6 Q. Okay. Do you have any problem with the actual
 7 methodology formula used by LPSCO for cost -- for affiliate
 8 cost allocations?
 9 MS. WOOD: Objection. Asked and answered.
 10 He said he didn't understand what the methodology was, and
 11 we were reserving our right to comment on it in the future.
 12 THE WITNESS: With respect to the AWS
 13 allocations, I don't have a problem with the methodology.
 14 BY MR. WILEY:
 15 Q. Okay.
 16 A. With respect to the APT allocations, I don't
 17 understand the methodology beyond what you've explained to
 18 me earlier. So --
 19 Q. Okay. If LPSCO used the same methodology for
 20 APT, would you have any problems with the methodology?
 21 A. I'd have to think about that. I'm not --
 22 Q. You're a testifying expert on this issue; aren't
 23 you?
 24 A. Well, that's an eventuality that I hadn't
 25 considered. I mean, I -- I looked at -- I looked at the

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1 allocated costs.
 2 Do you see that line?
 3 A. I do see that, yes.
 4 Q. Okay. What did you do to figure out how that
 5 number was derived?
 6 A. On a phone conversation with Gerald Tremblay. I
 7 don't know if that's the correct pronunciation.
 8 MR. SORENSEN: Close.
 9 THE WITNESS: I don't -- you -- Greg may have
 10 been on the call, as well. I can't recall. But I just
 11 asked.
 12 BY MR. WILEY:
 13 Q. So what did you do to investigate how that number
 14 was derived? You just called Gerald?
 15 A. Well, Gerald called me in response to a request
 16 and --
 17 Q. And what was discussed?
 18 A. Well, I know we discussed this. We discussed
 19 other things, as well. I don't recall every subject we
 20 covered.
 21 Q. Do you know whether that \$136,000 resulted from
 22 the application of LPSCO's new cost allocation methodology
 23 that was adopted in the middle of the test year?
 24 A. My review of the company's response to the data
 25 request 3.3(b) led me to believe that it was not a result

36 (Pages 138 to 141)

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1 simply of the change in allocation method.
 2 Q. If LPSCO testified that it was a result of the
 3 new cost allocation methodology, would you have any reason
 4 to disagree with that?
 5 MS. WOOD: Objection. Speculation. Facts
 6 not in evidence.
 7 THE WITNESS: It would depend on the
 8 testimony. In other words, if they just testified that, I
 9 don't think I could just take it as face value; but if they
 10 provided an explanation that showed that, then, yes.
 11 BY MR. WILEY:
 12 Q. If Mr. Bourassa explained an explanation for how
 13 that \$136,000 charge was calculated based upon the new
 14 methodology, would that meet your requirements?
 15 MS. WOOD: Objection. Speculation.
 16 THE WITNESS: If Mr. Bourassa did --
 17 BY MR. WILEY:
 18 Q. If Mr. Bourassa explained how that \$136,000
 19 amount was a result of the new cost allocation methodology,
 20 would you need any further information from LPSCO?
 21 MS. WOOD: Objection. Speculation.
 22 THE WITNESS: Well, yeah. I don't think it
 23 matters whether the explanation comes from Mr. Bourassa or
 24 some other witness. If an explanation is provided that
 25 demonstrates that, then, yeah, I would accept it. I mean,

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1 but my interpretation of the information that's been
 2 provided to date indicates that that's not the fact.
 3 BY MR. WILEY:
 4 Q. Were you aware, Mr. Rowell, that RUCO did not
 5 oppose the same cost allocation and methodology used by
 6 LPSCO -- strike that. I got that backwards.
 7 Were you aware, Mr. Rowell, that RUCO did not
 8 oppose the cost methodology employed by Black Mountain Sewer
 9 Company in its pending rate case? Did you know that?
 10 A. I'm aware of that, yes.
 11 Q. Okay. Were you also aware that Black Mountain
 12 Sewer Company uses the same cost -- affiliate cost
 13 allocation methodology as LPSCO?
 14 A. Yes.
 15 Q. Okay. Have you ever designed or drafted a cost
 16 allocation methodology for a regulated utility using a
 17 shared services model?
 18 A. No.
 19 Q. Have you ever testified on affiliate cost
 20 allocations in any other case?
 21 A. I don't recall having testified on that, no. I
 22 may have, but I don't recall that.
 23 Q. Okay. Let me have you look at paragraph 13 of
 24 your testimony, Mr. Rowell. Page 13. Sorry. On page 13
 25 you've listed various reasons that the cost allocation

Page 144

1 charged to LPSCO by APT are of concern to you; correct?
 2 A. Yes.
 3 Q. Okay. The first bullet point says, quote:
 4 In response to Staff data request JMM
 5 5.3, the Company indicated that \$250,979
 6 and \$267,462 were allocated to LPSCO's
 7 water and sewer divisions respectively
 8 by Algonquin Power Trust. However,
 9 \$291,708 and \$191,850 were actually
 10 allocated to LPSCO's water and sewer
 11 divisions, respectively, by Algonquin
 12 Power Trust.
 13 Do you see that line?
 14 A. I do see that.
 15 Q. Okay. Were you aware that the allocations in
 16 response to JMM 5.3 were based upon an annualized financial
 17 year?
 18 A. I was not aware of that.
 19 Q. Okay. And did you know that the actual cost
 20 allocation numbers there were for the actual cost
 21 allocations during the test year?
 22 A. The actual cost allocations where?
 23 Q. To LPSCO from APT during the test year.
 24 A. I still don't know -- I don't under -- I don't
 25 know what you're asking me.

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1 Q. Okay. I guess what I'm telling you, Mr. Rowell,
 2 is that your issue with the fact that those numbers don't
 3 reconcile are a result of the fact that they're for
 4 different periods of time. Did you realize that?
 5 A. No. This is the first that I'm hearing of that.
 6 Q. And so one explanation for the difference in
 7 these numbers is that one cost allocation is for a calendar
 8 year; whereas, the actual cost allocation is for the cost
 9 allocation during the test year. Did you know that?
 10 A. Did I know that that's one possible explanation?
 11 Q. Yes.
 12 A. Well, that is a possible explanation.
 13 Q. Okay.
 14 A. I don't believe that JMM 5.3 asked for anything
 15 other than test year allocations, though.
 16 Q. But that would explain the differences in those
 17 numbers is if they were for different periods of time;
 18 agreed?
 19 MS. WOOD: Objection. Speculation.
 20 BY MR. WILEY:
 21 Q. Agreed?
 22 A. Well, that's one possible explanation. I mean,
 23 there is an explanation for why the numbers don't match; and
 24 yes, that is one possible explanation.
 25 Q. And if LPSCO explained the difference in timing

37 (Pages 142 to 145)

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1 on the allocation of those numbers, would that answer your
2 questions about why those numbers don't reconcile?

3 MS. WOOD: Objection. Speculation. Without
4 looking at the testimony and verifying it, he has no way of
5 giving an answer to that.

6 THE WITNESS: You know, assuming that the
7 explanation was adequate, then, yes.

8 BY MR. WILEY:

9 Q. Okay. Your second bullet point on page 13 says,
10 quote:

11 In January of 2008 (during the test
12 year) the management fees charged to
13 LPSCO by Algonquin Power Trust increased
14 from \$13,200 to \$26,040 per month for
15 LPSCO water and \$8,800 to \$17,360 per
16 month for LPSCO sewer. The Company has
17 provided no explanation for this
18 increase in management fees from
19 Algonquin Power Trust.

20 Do you see that paragraph?

21 A. I do see that, yes.

22 Q. Okay. The numbers that you reference here, the
23 \$13,200 and the \$8,800, where did you get those numbers
24 from?

25 A. They're off of the general ledger and also off

Page 147

1 of -- there was -- there was a data request that staff put
2 to the company in their first set, you know, asking for
3 backup for what's in the outside services account.

4 Q. And is it your understanding that those numbers
5 are estimated numbers or actual numbers?

6 A. It's my understanding that those are actual
7 numbers.

8 Q. Okay. And if LPSCO explained that the increase
9 in management fees was a result of applying the new cost
10 allocation methodology, would that answer your concerns
11 about an explanation for the increase in the management
12 fees?

13 MS. WOOD: Objection. Speculation.

14 THE WITNESS: Well, that may raise as many
15 questions as it answers. Again, my understanding was that
16 the change in allocation methodology applied to the AWS
17 allocations and not the APT allocations. So --

18 BY MR. WILEY:

19 Q. On what do you base that understanding?

20 A. Again, I sent a data request to the company
21 asking specifically, "Show me the difference between the old
22 allocation methodology and the new allocation methodology."
23 The company provided a spreadsheet purporting to show the
24 differences between the old allocation methodology and the
25 new allocation methodology, and everything on that

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1 spreadsheet was AWS. There was nothing on that spreadsheet
2 for APT.

3 MS. WOOD: Mr. Riley -- Wiley. I apologize.

4 We've been here since nine o'clock to twelve o'clock and now
5 from one to two, almost 2:10. How much longer do you have?

6 MR. WILEY: It's hard to say. It depends on
7 the answers.

8 MS. WOOD: You know, I think Mr. Rowell's
9 getting worn out. So am I. And we can come back at another
10 point in time, but --

11 MR. WILEY: We need to finish it today,
12 Michelle.

13 MS. WOOD: Well, then, you'll need to have to
14 conclude, because if you're going past four hours --

15 MR. WILEY: We haven't gone past four hours,
16 Michelle. You guys were late in getting here. You've taken
17 three or four breaks this morning. You wanted a 45 to --
18 actually, it turned out to be more like an hour break over
19 lunch.

20 MS. WOOD: No. Actually, we asked for a
21 45-minute break, and that's what we got.

22 MR. WILEY: But we didn't start back up --
23 you guys didn't get back up here until about ten after one,
24 Michelle.

25 MS. WOOD: That's not accurate. But in any

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1 event --

2 MR. WILEY: Well, we can look at the court
3 reporter who starts timing on when we go back on the record.

4 MS. WOOD: Uh-huh, we can. But I need to
5 move it along and finish up.

6 MR. WILEY: I've can have as much time as I
7 need, Michelle. I'm not anywhere near the four hours.

8 MS. WOOD: You are. You are. And you need
9 to hurry up and conclude.

10 MR. WILEY: You can worry about yourself,
11 Michelle.

12 BY MR. WILEY:

13 Q. The next bullet point on paragraph 13,
14 Mr. Rowell, says:

15 The invoices provided by Algonquin Power
16 Trust essentially contain no detail.

17 Thus, it is impossible to audit the
18 transaction between Algonquin Power
19 Trust and LPSCO based upon those
20 invoices.

21 Do you see that sentence?

22 A. Yes.

23 Q. Okay. What invoices are you talking about there?

24 A. Specifically, I'm getting at the management fees
25 that we talked about earlier.

38 (Pages 146 to 149)

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1 Q. Okay. The management fees are allocated based
2 upon the new cost allocation methodology for APT; correct?

3 A. As I've stated before, I'm not aware that there
4 is a new cost allocation methodology for APT. This is the
5 first that I'm hearing of that.

6 Q. So your assumption is that the cost allocations
7 for APT didn't change the methodology?

8 A. I don't think I assumed that. That's the
9 conclusion I reach based on the information provided by the
10 company.

11 Q. You would agree that LPSCO should true up the
12 actual costs incurred with estimated costs incurred in
13 allocating affiliate costs to LPSCO?

14 A. Well, no. I think they should allocate the
15 actual costs.

16 Q. When LPSCO begins allocating costs or when APT
17 begins allocating costs to LPSCO at the start of the test
18 year, what information will APT use to make those cost
19 allocations down to LPSCO? They won't have actual cost
20 numbers for the test year; agreed?

21 A. Well, but the allocations are based on customer
22 counts, when you have customer count information.

23 Q. But the actual costs incurred -- you're
24 allocating by customer count into the costs incurred.

25 A. Okay.

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1 Q. How does LPSCO determine the actual costs
2 incurred at the beginning of the year when no costs have
3 actually been incurred?

4 A. Well, two points. First, LPSCO doesn't -- LPSCO
5 never --

6 Q. APT.

7 A. Yeah. APT determines the costs. And they
8 don't -- as far as my understanding is and based on looking
9 at the general ledger, they send a bill every month. It's
10 not -- they don't send a bill at the beginning of the test
11 year for the whole test year.

12 Q. Agreed.

13 A. Okay. So --

14 Q. But what information is APT using to make those
15 monthly cost allocations during the test year?

16 MS. WOOD: Objection. Speculation.

17 THE WITNESS: It's not clear.

18 BY MR. WILEY:

19 Q. Okay. Would you agree that the only information
20 available at the beginning of the test year is budgeted
21 amounts?

22 MS. WOOD: Objection. Speculation.

23 THE WITNESS: Well, I mean, let's try and get
24 through this more quickly. If you're asking me is it
25 possible that the monthly bills are based on a budgeted

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1 amount and not an actual amount, the answer is yes, that's
2 possible. I don't know that that's the case, but that's
3 possible.

4 BY MR. WILEY:

5 Q. And if we assume that that's the case for LPSCO
6 and APT, would you also agree that it is appropriate to true
7 up those budget amounts for the actual costs incurred at the
8 end of the test year?

9 MS. WOOD: Objection. Speculation.

10 THE WITNESS: Yes, that would be appropriate.

11 BY MR. WILEY:

12 Q. Okay. And so, for example, Mr. Rowell, one of
13 your issues you raised on affiliate costs was the fact that
14 there was no explanation for the services for, quote, Recon
15 fees to 4 factor. Do you recall that?

16 A. Yes.

17 Q. Okay. And if we look at page 12 of your
18 testimony, you've taken out approximately \$255,000 in
19 affiliate cost because there was no explanation for what the
20 Recon fees to 4 factor was; agreed?

21 A. Agreed.

22 Q. Okay. Did you know that the Recon fees to 4
23 factor was a reconciliation of the 4 factor formula for the
24 actual costs incurred at the end of the test year?

25 MS. WOOD: Objection. Speculation. Assumes

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1 facts not in evidence.

2 THE WITNESS: I thought that might be the
3 case. But based on the company's -- again, the same data
4 request I referred to before, I asked for a comparison of
5 the old and new. I couldn't make -- I couldn't reconcile
6 the old and new allocation methodologies with those Recon
7 fees to 4 factor. So --

8 BY MR. WILEY:

9 Q. But you would agree that it would be appropriate
10 for LPSCO to reconcile the actual 4 factor -- the actual
11 costs under the 4 factor method at the end of the test year;
12 agreed?

13 A. Well, now we're -- we're talking about
14 reconciling two different things here. Okay? Because
15 there's reconciling the old and new allocation methodology
16 and there's reconciling -- and you also asked me about
17 reconciling budgeted versus actual amounts. So --

18 Q. You're aware the Recon fees to 4 factor applies
19 to AWS; correct?

20 A. That's correct.

21 Q. Okay. And you're aware that LPSCO changed its
22 cost allocation methodology for the AWS cost in the middle
23 of the test year; agreed?

24 A. I don't know when they changed it. I mean, they
25 changed it before the rate case was filed, whether it was in

39 (Pages 150 to 153)

Page 154

1 the middle of the test year or some other. So --

2 Q. Do you know when they changed it?

3 A. I don't recall exactly when it was changed.

4 Q. If they changed it during the test year, would

5 you agree that it is appropriate for LPSCO to do a

6 reconciliation of the 4 factor costs that occurred prior to

7 the change in methodology?

8 A. I believe that's what they testified they did. I

9 don't really have a problem with that.

10 Q. Okay. And so if LPSCO explains on rebuttal that

11 the Recon fees to 4 factor were a result of the

12 reconciliation for the change in methodology relating to

13 AWS, that would be an adequate explanation for you; agreed?

14 MS. WOOD: Objection. Speculation. We're

15 not waiving any right we have on surrebuttal.

16 BY MR. WILEY:

17 Q. Agreed?

18 A. If the explanation is sufficiently detailed, yes.

19 Q. Okay. On page 14 of your testimony, Mr. Rowell,

20 you've got some concerns where you've listed there relating

21 to cost allocation manuals, allocation charts, and some

22 other issues. Do you see those?

23 A. Yes.

24 Q. Okay. How did the fact that there's no cost

25 allocation methodology affect the actual cost allocation for

Page 155

1 LPSCO?

2 A. I don't -- I think you misspoke. There's nothing

3 here that says there is no cost allocation methodology.

4 Q. How did the fact that there's no cost allocation

5 manual for LPSCO affect the actual costs allocated to LPSCO

6 for affiliate shared services?

7 A. I don't know that it did.

8 Q. Okay.

9 A. And I don't -- I did not mean to allege that it

10 did either.

11 Q. Your concern is, is that you would just like to

12 see LPSCO or its parent corporations adopt a cost allocation

13 methodology so it's down in writing; agreed?

14 A. Yeah. That's a fair characterization, yes.

15 Q. Okay. Would it be satisfactory to you if LPSCO

16 agreed to prepare and provide a cost allocation methodology

17 going forward?

18 A. Well, when you say "satisfactory," you mean to

19 resolve this bullet point?

20 Q. Yes.

21 A. Yes.

22 Q. Okay. The fact that APT does not appear on the

23 organizational chart in response to JMM 1.17, how does that

24 affect the actual cost allocations for LPSCO in this case?

25 A. Again, I didn't allege that that affected the

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1 actual allocations.

2 Q. Okay. Do you have any understanding of exactly

3 what Algonquin Power Property Limited Partnership is in

4 relation to LPSCO --

5 A. No.

6 Q. -- APT or any of the Algonquin affiliates?

7 A. No.

8 Q. Okay. You also state on paragraph -- or page 14

9 that, quote:

10 It is not clear from any of the

11 information provided by the Company

12 (e.g. organizational charts) how these

13 electric generation companies fit into

14 the Algonquin corporate structure and

15 how APT's costs are allocated between

16 its water/wastewater holdings and its

17 electric generation holdings.

18 Do you see that line?

19 A. I do see that, yes.

20 Q. Okay. We've already talked about that issue,

21 correct, as to how the APT costs were affiliated based upon

22 the number of water/sewer companies versus the electric

23 companies; correct?

24 A. Correct.

25 MS. WOOD: Objection.

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1 THE WITNESS: I'm sorry.

2 BY MR. WILEY:

3 Q. Correct?

4 MS. WOOD: Objection. He's already testified

5 that he doesn't understand the way in which you have

6 allocated APT's costs.

7 BY MR. WILEY:

8 Q. That information, assuming I am correct, would

9 answer your question about how the APT costs are affiliated

10 between the sewer/water companies and the electric

11 companies?

12 A. How they're allocated between them?

13 Q. Yes.

14 A. Well, you know, if by that information you mean

15 an explanation, you know, consistent with our previous

16 discussion, yes.

17 Q. Okay. You've got a line in there about unusually

18 high bank fees. What are you referring to there?

19 A. Actually, there's an adjustment in Miss Rowell's

20 testimony that speaks to it specifically. And --

21 Q. Does that relate in any way to affiliate cost

22 allocations or the design and construction issues with the

23 Palm Valley Plant?

24 A. It does not relate to the design and construction

25 issues, but there is a relation with the affiliate issues.

40 (Pages 154 to 157)

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1 Q. Okay. How does it relate to the affiliate cost
2 issues?
3 A. Well, from an auditing perspective, we've got
4 invoices from AWS for banking fees, and we just -- we
5 can't -- there's -- from an auditing perspective, we don't
6 know what those banking fees were. It's not -- it would be
7 different if the invoices came straight from a bank, say.
8 Then, you could say, "Well, the bank charged them X amount
9 for providing X service." But we're in a position where we
10 had a bill from AWS that didn't contain that detail.
11 Q. Would it make a difference to you if AWS simply
12 passed its banking costs on to LPSCO without any markup or
13 affiliate profit?
14 A. Well, I hope that's what they're doing.
15 Q. Okay.
16 A. And if that can be verified, then --
17 Q. Then, that resolves your issue; correct?
18 A. That resolves the issue.
19 Q. Okay.
20 A. It's just, again, from an auditing perspective
21 with the information we had, that's -- we couldn't really
22 get at that issue.
23 Q. Turn the page, Mr. Rowell, please. You've got a
24 line in there about the name changes. Does the issue with
25 respect to the name change affect any of the issues raised

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1 in your testimony about the design or construction issues
2 with the Palm Valley Plant or the affiliate cost
3 allocations?
4 A. No. Again, that goes back -- it's more of an
5 auditing issue.
6 Q. Okay. Do you know how Global does its affiliate
7 cost allocations?
8 A. I don't recall.
9 Q. Okay. Have you ever looked at the affiliate cost
10 allocation testimony in the Global rate case?
11 A. That was almost a year ago, but I did, yes.
12 Q. Okay. Have you made any comparison of
13 Algonquin's affiliate cost methodology to the methodology
14 used to buy Global?
15 A. No.
16 MS. WOOD: Objection.
17 THE WITNESS: I'm sorry.
18 MS. WOOD: Okay.
19 MR. WILEY: Let's go off for a minute.
20 (Discussion off the record.)
21 BY MR. WILEY:
22 Q. Mr. Rowell, let me have you look back at -- what
23 is that, Exhibit 5?
24 MS. WOOD: 5.
25 THE WITNESS: 5.

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1 BY MR. WILEY:
2 Q. 5. Okay. Is it your understanding that
3 Exhibit 5 provides a list of the component of the management
4 fees allocated by APT to LPSCO?
5 A. Well, there's one line labeled "Management Fees."
6 Q. Okay. But were you aware that all of these items
7 were included in the management fees that are referenced in
8 your testimony? Did you know that?
9 MS. WOOD: Objection. Speculation. Assumes
10 facts not in evidence.
11 THE WITNESS: No.
12 BY MR. WILEY:
13 Q. No?
14 A. It wasn't clear to me how this information tied
15 back to the information contained on the general ledger.
16 But I would say that would strike me as sort of odd
17 considering the -- I believe this was provided in response
18 to a data request asking for, you know, justification for
19 all of the APT costs. So if this is just a justification
20 for a portion of the APT costs, that would be surprising.
21 And additionally, the numbers don't add up. You know, you
22 can't reconcile back from -- it shows a total of -- well,
23 actually, I won't get into that.
24 (Discussion off the record.)
25 ///

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1 BY MR. WILEY:
2 Q. If the Commission were to adopt RUCO's
3 recommendation or your recommendation that all affiliate
4 costs from APT be excluded from being passed down to LPSCO,
5 would you agree that APT could withdraw the provision of all
6 of those services to LPSCO?
7 MS. WOOD: Objection. Speculation. Assumes
8 facts not in evidence.
9 THE WITNESS: Well, with or without the
10 acceptance of the recommendation, I don't believe there's
11 any obligation for APT to provide these -- I mean, if you're
12 asking like are they legally obliged to provide the
13 services? I don't know that they -- that they are.
14 BY MR. WILEY:
15 Q. Do you agree that APT -- let me ask it this way.
16 Would you have any objections if APT decided not to perform
17 services as listed on Exhibit 5 to LPSCO and required LPSCO
18 to perform those services on its own?
19 A. As described here, if I read what's actually
20 listed here on Exhibit 5, it does not appear as if, you
21 know, LPSCO would be harmed if these services were not
22 provided by APT, using the term "services" liberally.
23 Q. So you wouldn't have any problem if APT withdrew
24 those services from LPSCO; fair?
25 MS. WOOD: Objection. Asked and answered.

41 (Pages 158 to 161)

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1 THE WITNESS: Again, if what I have here on
 2 Exhibit 5 is a complete description of the services that are
 3 provided, then, yes, I wouldn't have a problem.
 4 BY MR. WILEY:
 5 Q. Well, why would it matter whether that was a
 6 complete description of services? If the Commission
 7 ultimately adopts your recommendation to not allow any of
 8 the costs incurred by APT to be passed down to LPSCO, would
 9 you have a problem if APT withdrew those services from
 10 LPSCO, whatever services they were?
 11 MS. WOOD: Objection. Speculation. If he
 12 doesn't know what other service they are, how is he supposed
 13 to form an opinion, Todd?
 14 THE WITNESS: You asked me two different
 15 questions.
 16 BY MR. WILEY:
 17 Q. I'm responding to the answer that you gave, Matt.
 18 A. Well, you asked me what difference would it make.
 19 Q. Well, let me ask it to you this way, then, Matt.
 20 If the Commission does not allow LPSCO to recover the costs
 21 for services provided by APT, why would APT provide those
 22 services to LPSCO?
 23 A. Why would APT provide these services to LPSCO?
 24 Well, to a large extent, it's not clear that services are
 25 being provided to LPSCO. So —

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1 Q. Who prepares the tax returns for LPSCO?
 2 A. Again, I don't know which affiliate prepares the
 3 tax returns.
 4 Q. Who does the auditing services? Who performs the
 5 auditing services for LPSCO?
 6 A. Again, I don't know which affiliate provides
 7 those services.
 8 Q. Who makes the management decisions for LPSCO?
 9 A. I believe the managers are employed by AWS.
 10 Q. Who provides the financing for LPSCO?
 11 A. Again, I don't know which affiliate provides
 12 those services.
 13 Q. Who provides the payroll system, 401(k) services,
 14 and health and benefits for LPSCO?
 15 A. It's not clear if that's — well, I understood it
 16 to be AWS. My interpretation of Exhibit 4 — I mean, excuse
 17 me, Exhibit 5 is that these are all services that are
 18 provided at the Ontario office. In other words, I believe
 19 there's a line on here regarding — where is it?
 20 Q. Essentially, what you're saying is Exhibit 5 is
 21 cost allocations for AWS; correct?
 22 A. No, I'm not saying that.
 23 Q. What are you saying?
 24 A. My interpretation of Exhibit 5 was that these are
 25 costs — for instance, you asked about employee costs. And

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1 somewhere — I can't find it. But there's somewhere on here
 2 there's a reference to employee costs. Now, my
 3 interpretation was that's APT employees at the Ontario
 4 office. Yeah, here it is.
 5 Q. Mr. Rowell, who provides the management of the
 6 payroll system, the 401(k) services, and the health and
 7 benefits for LPSCO, if you know?
 8 A. It's not clear based on this document.
 9 Q. Okay. So in other words, you don't know;
 10 correct?
 11 MS. WOOD: Objection. Asked and answered.
 12 He just said he doesn't know.
 13 THE WITNESS: I don't know.
 14 MR. WILEY: I think I'm done, Mr. Rowell.
 15 THE REPORTER: Do you want to read and sign?
 16 MS. WOOD: Yes, please.
 17 (The deposition was concluded at 2:39 p.m.)
 18

MATTHEW ROWELL

Page 165

1 STATE OF ARIZONA)
) ss.
 2 COUNTY OF MARICOPA)
 3 BE IT KNOWN that the foregoing deposition was
 4 taken before me, CHRISTINE A. CHAMBERLAIN, a Certified
 5 Reporter in and for the County of Maricopa, State of
 6 Arizona; that the witness before testifying was duly sworn
 7 by me to testify to the whole truth; that the questions
 8 propounded to the witness and the answers of the witness
 9 thereto were reduced to typewriting under my direction; that
 10 the deposition was presented to the witness for reading and
 11 signing; that the foregoing 164 pages constitute a true and
 12 accurate transcript of all proceedings had upon the taking
 13 of said deposition, all done to the best of my skill and
 14 ability.
 15 I FURTHER CERTIFY that I am in no way related
 16 to any of the parties hereto, nor am I in any way interested
 17 in the outcome hereof.
 18 DATED at Phoenix, Arizona, this 7th day of
 19 December, 2009.
 20
 21
 22 CHRISTINE A. CHAMBERLAIN
 23 Certified Reporter
 24 Certificate No. 50741
 25

42 (Pages 162 to 165)



March 25, 2008

Algonquin Power Income Fund
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July 31, 2008

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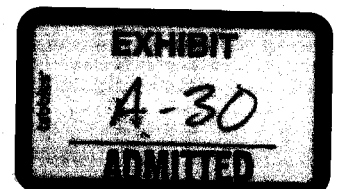
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L6H 7H7

Attention: Luisa Paniconi

DESCRIPTION: Services Provided by Dianna Taylor for preparation relating to the certification of the effectiveness of ICFR.

<u>DATE</u>	<u>HOURS</u>
07-Apr	7.00
08-Apr	6.00
09-Apr	7.00
10-Apr	7.00
11-Apr	4.50
14-Apr	7.00
15-Apr	7.00
16-Apr	6.00
17-Apr	7.00
18-Apr	5.50
Total Hours	64.00
Rate	\$ 90.00
	5,760.00
GST at 5%	288.00 GST # 893148585

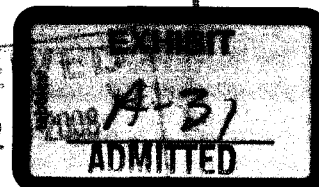
POSTED
-04-30 2008
OAKVILLE

\$ 6,048.00

RECEIVED 4/28/08	VENDOR ID
PAYABLE UPON RECEIPT COMPANY APT	G/L CODE 1100.1.9820.75.7350.0000
APPROVED [Signature]	JOB #
PAID [Signature]	COST CODE

Please make cheque payable to AccuSource Inc.

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APR 2



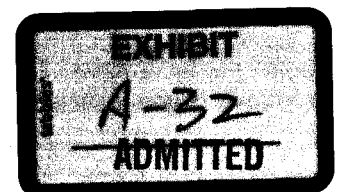
INVOICE

Date: 1-Jul-08
Landlord: Algonquin Power Property Limited Partnership
Tenant: Algonquin Power Trust

Monthly Rent	\$ per Square Foot	Square Footage	Total
Basic	19.75	14,981.32	24,656.76
Sub-Total			24,656.76
GST (#88208 3017 RT0002)		5%	1,232.84
Total			\$ 25,889.59

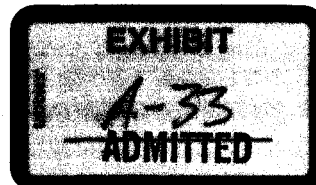
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COMPANY	GIL GUE
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APPROVED	JOB #
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OAKVILLE



Algonquin Power Income Fund
Trustee Fees - George Steeves - Chairman of Audit Committee
For the quarter-ended March 31, 2008

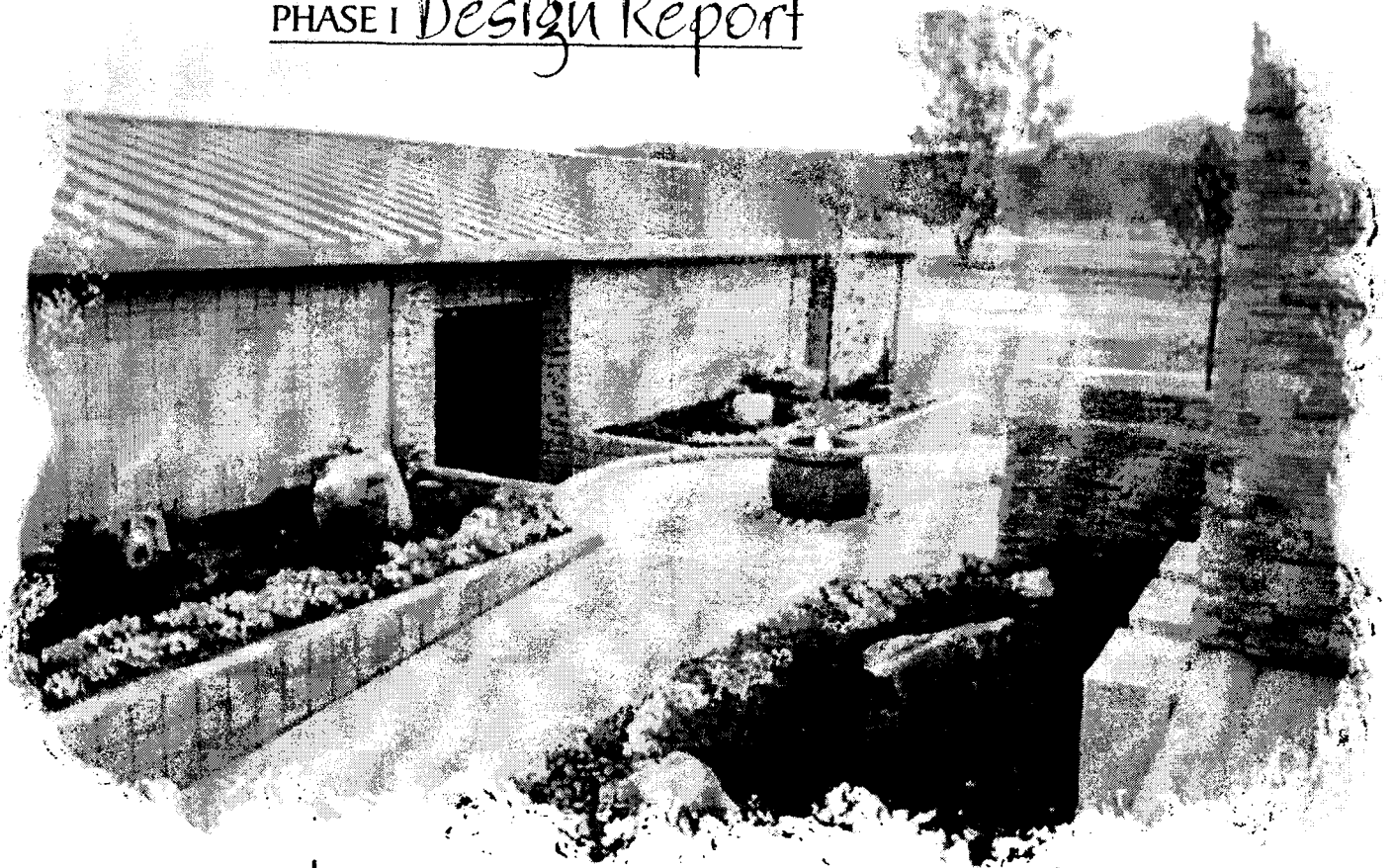
Description	Amount
Quarterly Trustee Fee	\$ 7,250.00
Monthly Distribution Meeting - January 22, 2008 by telephone	\$ 750.00
Monthly Distribution Meeting - February 21, 2008 by telephone	\$ 750.00
Monthly Distribution Meeting - March 20, 2008 by telephone	\$ 750.00
Managers Compensation Meeting - February 28, 2008 by telephone	\$ 750.00
Managers Letter from Outside Investor Firm - Morning March 20, 2008 by telephone	\$ 750.00
Q4/07 Audit committee - March 5, 2008, in person	\$ 1,500.00
Q4/07 Trustee Meeting to approve Financial Statements - March 6, 2008, in person	\$ 1,500.00
Goverence Meeting - Independent Trustees Only - February 7, 2008, in person	\$ 1,500.00
Strategic Plan Session - February 7, 2008 - in person	\$ 1,500.00
Management Agreement Payment - February 27, 2008 - in person	\$ 1,500.00
Pre Audit Committee Meeting - March 3, 2008 - in person	\$ 1,500.00
Strategic Plan Session - March 26, 2008 - in person	\$ 1,500.00
Highground Meeting - March 26, 2008 - in person	\$ 1,500.00
Total Trustee Fees	\$ 23,000.00
Less: CPP Contribution for Q1 2008	1,138.50
Income Taxes	6,000.00
Total	15,861.50
CPP - \$23,000 X 4.95% = \$1,138.50 to a maximum annual contribution of \$2,049.30	
Q1/08	1,138.50
Q2/08	
Q3/08	
Q4/08	-
Total	1,138.50



Palm Valley

Water Reclamation Facility

PHASE I Design Report



Prepared for _____

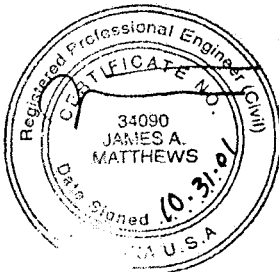
Litchfield Park Service Company

for submittal to

Maricopa County
Environmental Services Department

prepared by:

PACE
PACIFIC ADVANCED
CIVIL ENGINEERING
17902 Georgetown Lane
Huntington Beach, CA 92647



October 2001 (revised)

April 2001 (revised)
February 2001 (revised)
January 2001 (revised)
December 2000 (revised)



***PALM VALLEY WATER RECLAMATION FACILITY
PHASE I DESIGN REPORT***

Prepared for:

Litchfield Park Service Company

Prepared by:

***Pacific Advanced Civil Engineering, Inc.
17902 Georgetown Lane
Huntington Beach, CA 92647***

***November 2000
December 2000 (Revised)
January 2001 (Revised)
February 2001 (Revised)
April 2001 (Revised)
October 2001 (Revised)
#7244E***

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Appendix C – Tertiary Filter/ Lo-Pro Odor Scrubbers/ Laboratory Equipment

I. PROJECT DESCRIPTION

A. Background

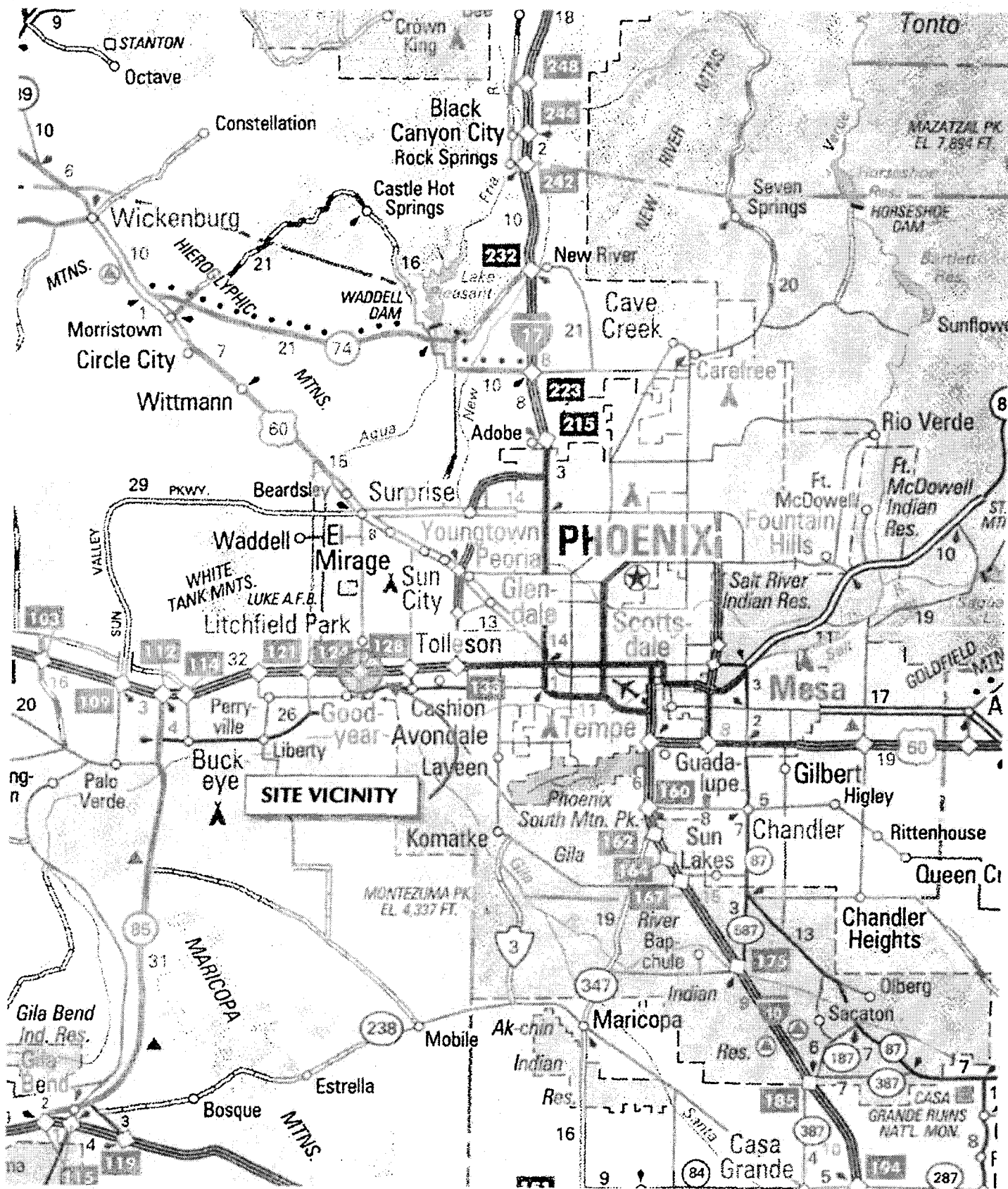
The Litchfield Park Service Company (LPSCo) provides sewer services to residents and businesses located in Litchfield Park, Regional Analysis Zones (RAZ) 265 and 266, and two developments (Wigwam Creek and Stardust Development) located outside the LPSCo service area. Currently, there are no existing wastewater treatment facilities in the immediate area, and wastewater from LPSCo is discharged to the City of Goodyear 157th Avenue Wastewater Treatment Plant (WWTP) located approximately 5.7 miles south of the service area. Because the wastewater generation from the LPSCo service area is approaching the current capacity agreement of 1.4 MGD, LPSCo proposes to construct new water reclamation plants in provide for their service area. The addition of the new facilities will likely reduce the overall capital and operational costs for current and future LPSCo customers by eliminating the need for 6 miles of additional trunk sewer and lift stations. In addition, consumers will benefit from the reduced cost of reclaimed water, which will be processed much closer to the point of reuse.

To accommodate existing and future flows, two new water reclamation facilities (WRF) are proposed: the Palm Valley and the Sarival WRF. Combined, the new treatment facilities will provide tertiary wastewater treatment and reclamation for all of the sewage generated in the present and future LPSCo service areas.

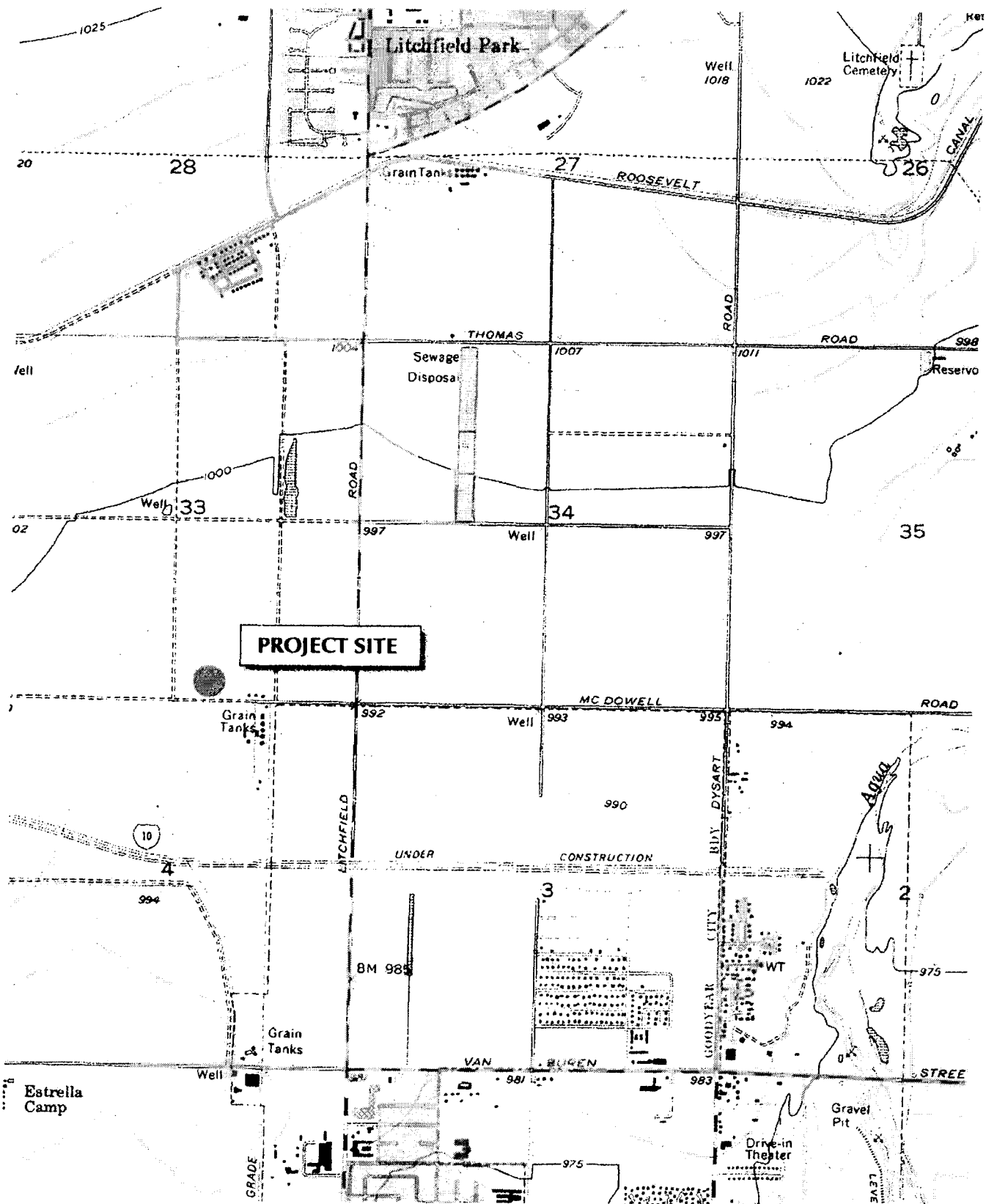
Design and construction of both the Palm Valley WRF and Sarival WRF will occur in two phases. Phase I will have a maximum month daily-average flow (MMDF) capacity of 4.1 MGD and the full build-out (Phase II) will have a capacity of 8.2 MGD. This report details Phase I of Palm Valley WRF **only**.

B. Location

The proposed Palm Valley WRF will be constructed in the City of Goodyear, Maricopa County, Arizona, approximately 20 miles west of Phoenix, Arizona (See Figure 1). The Palm Valley WRF will be constructed on property currently owned by SunCor LPSCo Development Company. The property will be sold to LPSCo for the purpose of maintaining and operating the facility. The Palm Valley WRF will be located on McDowell Road between Bullard Avenue and Litchfield Road in Section 33, Township 2N, Range 1W of the Tolleson Quadrangle (See Figure 2). This location is in close proximity to an existing lift station where wastewater from the eastern portion of LPSCo service area is collected and conveyed to the City of Goodyear 157th Avenue WWTP. Locating the Palm Valley WRF near this junction eliminates the need for an additional lift station and reduces additional sewer routing.



PACE PACIFIC ADVANCED CIVIL ENGINEERING	DATE 02/2001	TITLE VICINITY MAP	FIGURE 01
	PAGE	JOB NAME Palm Valley Wastewater Reclamation Facility	JOB NO. 7244E

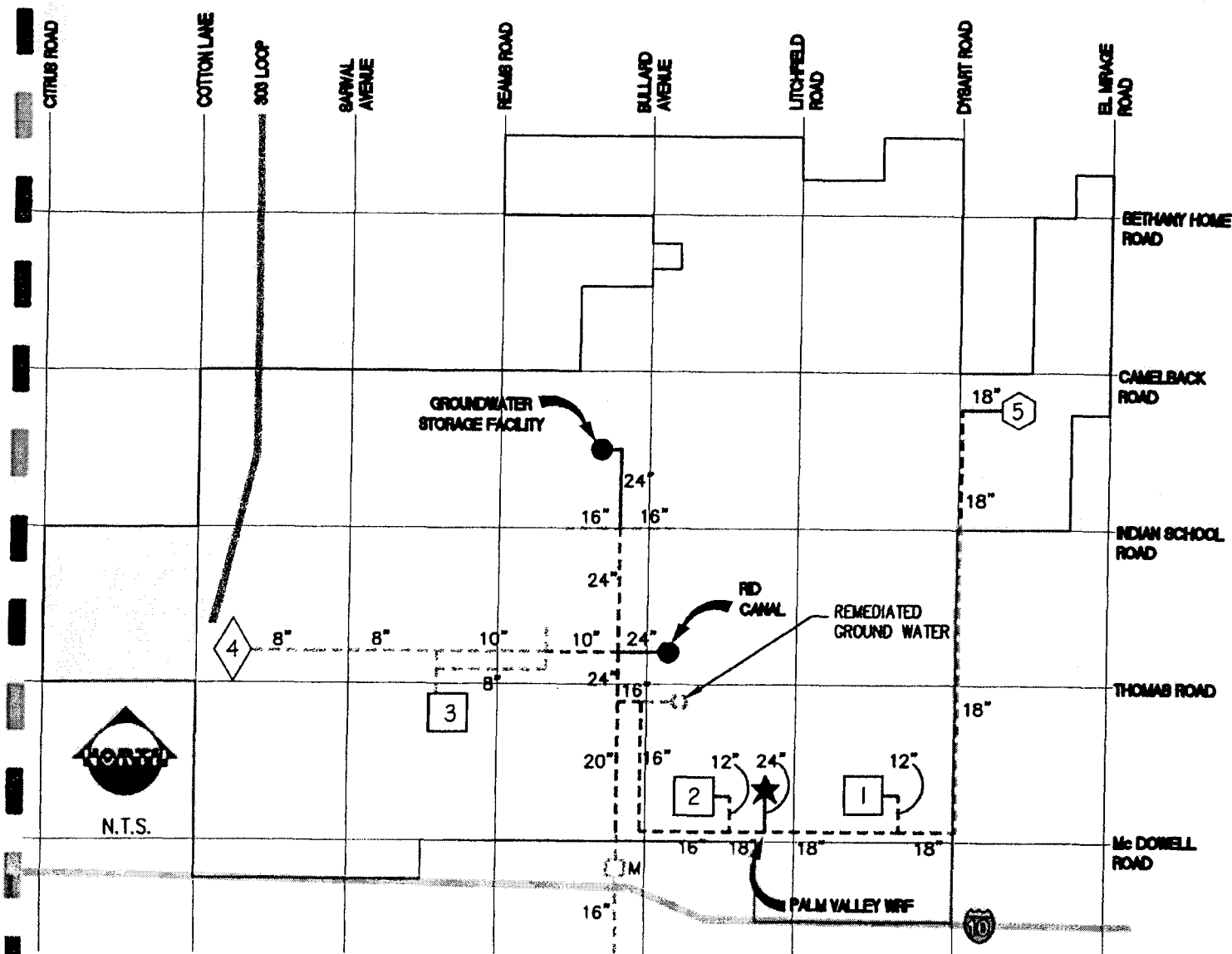


There are no known drainage courses within 1,000 feet of the project site. Wastewater will be processed to exceed the current ADEQ Title 18 requirements for class A+ effluent, enabling unrestricted irrigation re-use. Effluent will likely be stored in 1) lined golf lakes adjacent to the facility and 2) an effluent storage facility (seven million gallon reservoir) northwest of the Palm Valley WRF. The reclaimed water will be used to irrigate four 18-hole golf courses currently served by LPSCo, four future courses under development, and numerous public parks that will be converted to reclaimed water irrigation. In addition to golf course and park irrigation, there are two other proposed discharge sites in the LPSCo area. It is estimated that the golf course and park irrigation demand in LPSCo's service area will be less than the quantity produced by the facility. Therefore, remaining effluent will likely be stored in the storage facility for groundwater recharge or other irrigation. Finally, any excess effluent remaining will be discharged to the Roosevelt Irrigation District (RID) canals in accordance with the National Pollution Discharge Elimination System (NPDES) permit. Figure 3 shows the existing and proposed water reclamation distribution system.

C. Proposed Design

Phase I design and construction for the Palm Valley WRF is expected to be completed and operational by December 2001. It will be designed by Pacific Advanced Civil Engineering, Inc. (PACE), a licensed Arizona civil engineering firm, and constructed by Pacific Environmental Resources Corporation (PERC), a licensed Arizona contractor.

The proposed Phase I design for Palm Valley WRF will be based on biological oxidation utilizing the activated sludge process. The plant will include screening, grit removal, anoxic/ aerobic biological nutrient removal, tertiary filtration, ultraviolet (UV) disinfection, and advance sludge digestion. The proposed secondary treatment process is a sequential batch reactor (SBR) system. The SBR treatment process will utilize anoxic mixing, aerobic mixing, and static reaction capabilities to provide biological oxidation, nitrification, denitrification, phosphorous removal, and clarification within one reactor tank. To provide process redundancy and obtain a Phase I maximum month daily flow (MMDF) capacity of 4.1 MGD, a minimum of two reactor tanks and an anoxic reactor tank will be constructed.



LEGEND

PROPOSED EFFLUENT
PIPELINES

EXISTING EFFLUENT
DELIVERY SYSTEM

GOLF COURSES

PARKS

SCHOOLS

CANALS

LAKES

GROUNDWATER
STORAGE FACILITY



PROPOSED DEVELOPMENT

LPSCD. SERVICE AREA

EX. PIPE
TO BE UPSIZED

EXISTING EFFLUENT USERS

1. PALM VALLEY PHASE I
2. PALM VALLEY PHASE II
3. PEBBLE CREEK PHASE II
4. PEBBLE CREEK STORAGE LAKE
5. AIRLINE CANAL (MIGWAM GOLF COURSE)

PACE
PACIFIC ADVANCED
CIVIL ENGINEERING
17000 REDWOOD LANE, N.E. WA. 98047
(206) 843-8734 FAX: 206-466-2525

DATE
09/01

PAGE

TITLE
PROPOSED COMMUNITY AND RECLAIMED
WATER DISTRIBUTION SYSTEM UPGRADE

JOB NAME

PALM VALLEY WATER RECLAMATION FACILITY

FIGURE
3

JOB NO.

7244-E

D. Project Contacts

Principal Developer: Litchfield Park Service Company
David Ellis, General Manager
111 W. Wigwam Blvd. Suite B
Litchfield Park, AZ 85340
(623) 935-9367

Principal Facility Operator: Litchfield Park Service Company
111 W. Wigwam Blvd. Suite B
Litchfield Park, AZ 85340
(623) 935-9367

- PACE

Project Civil Engineer: Pacific Advanced Civil Engineering, Inc. (PACE)
James A. Matthews, P.E.
Main Office: 17902 Georgetown Lane
Huntington Beach, CA 92647
(714) 843 -5734
Phoenix Office: 4620 E. Elwood St., Ste. B14
Phoenix, AZ 85040
(480) 557-8525

General Contractor: Pacific Environmental Resources Corp. (PERC)
Johan Perslow, P.E., C.E.O.
Main Office: 17862 Georgetown Lane
Huntington Beach, CA 92647
(714) 375-5338
Phoenix Office: 4620 E. Elwood St., Ste. B14
Phoenix, AZ 85040
(480) 557-8525

Project Site: North side of McDowell Road,
Between Bullard Avenue and Litchfield Road

II. GENERAL REQUIREMENTS

Design and Construction Standards

The design and construction of the Palm Valley WRF Phase I will be in conformance with the following codes:

- MAG – Uniform Details and Standard Specifications for Public Works Construction – 1998
- City of Goodyear Engineering Standards and Policies Manual
- ADEQ Engineering Bulletin 11 – 1978
- Uniform Building Code (UBC) – 1997
- Uniform Plumbing Code (UPC) – 1997
- Uniform Fire Code – Latest Edition

Permits

Table 1 list the permits required for Palm Valley WRF Phase I.

Table 1. Required Permits

Requirement	Regulatory Agency
Permit to Construct (ATC)	Maricopa County Environmental Services Department
Approval of Construction (ADC)	Maricopa County Environmental Service Department
Aquifer Protection Permit (APP)	Arizona Department of Environmental Quality
Reclaimed Wastewater Recharge Permit	Arizona Department of Water Resources
Reclaimed Wastewater Reuse Permit	Arizona Department of Environmental Quality
National Pollutant Discharge Elimination System (NPDES) Permit	Arizona Department of Environmental Quality ← EPA
Sludge Disposal Agreement	Arizona Department of Environmental Quality
Air Quality Permit	Maricopa County Environmental Services Department
MAG 208 Amendment	City of Goodyear, MAG Water Quality Advisory Committee, MAG, Management Committee, MAG Regional Council, ADEQ
Grading Permit	City of Goodyear
Architectural and Zoning Approval	City of Goodyear
Building Permit	City of Goodyear
Flood Control	Maricopa County/Flood Control

Electrical Power Supply and Controls

The Palm Valley WRF Phase I will require a new service connection to the facility from APS. A 3000 amp service entrance and meter section will be installed at the north end of the facility. From the service pedestal, power will be routed to a 3000 amp Automatic Transfer Switch (ATS). The transfer switch will be fed by both the prime APS power source and a 1500 KW diesel powered generator. In the event that prime power is lost due to service provider failure or construction damage, the ATS will automatically start the generator and transfer power to generator service. Once prime power is restored, the ATS will automatically transfer back to prime power. The generator will be equipped

This is new + with a 12-hour fuel tank and automatic exerciser clock, which will run the generator once a week to ensure proper operation when needed. The load calculations performed by the electrical engineering consultant, Wright Engineering, indicate that the 1500 KW generator will be sufficient for the Phase I facility. An additional generator and paralleling switchgear will be needed for Phase II due to the increase in UV and filtration equipment.

From the ATS, power will be routed to a sub-distribution panel^{two}, which will supply power to the Sludge Processing Building, the SBR Building, and the future Phase II facility separately. Each of the facilities will have independent Motor Control Centers (MCC). Each MCC will be controlled by a local programmable logic control (PLC), which will communicate via network to other PLC units in the plant. By having the command instruction local to each system, a computer problem with one controller or network connection will not affect other controllers in the system.

All PLC units will be Allen Bradley modular controllers. By providing commonality between PLCs, spare parts and service requirements will be reduced. The following processes will use PLC control:

- Influent Lift Station
- SBR Mechanical and Process Controls
- Influent Screening Process
- Effluent Filtration
- UV Disinfection
- Solids Processing and Dewatering

Potable and Non Potable Water Systems

Potable water will be supplied to the facility from the city's water mains. A reduced pressure backflow prevention device will be installed at the point of connection. The water supply main will be sufficient to provide potable water for sinks, toilets, and showers as well as fire hydrants. Based on the Uniform Fire Code, the required fire flow for the 4.1 MGD facility will be approximately 2000 GPM for a duration of 2 hours.

Reclaimed water use in the facility will be limited to wash water for the influent screens and sludge dewatering equipment, and landscape irrigation. The reclaimed uses will be supplied from a pressurized storage tank which is connected directly with the effluent discharge line.

Reclaimed water will be used to irrigate landscape around the facility. Purple pipe will be used above and below ground to identify the reclaimed water lines from other potable from non-potable piping systems. Separation between potable and non-potable water lines will be maintain to MAG – Uniform Details and Standard Specifications for Public Works Construction, Detail 404-1.

Construction of all new potable and non-potable water lines will be in conformance with MAG standards, sections 610, 611, 615, and 616 where applicable.

Plumbing Color Coding and Marking Requirements

All exposed plumbing in the Phase II and Phase III treatment facilities will be properly color coded and marked. The following color-coding will be used to identify and distinguish between plumbing and piping systems:

<u>Process or Fluid Description</u>	<u>Color Requirement</u>
Raw Untreated – Wastewater	Dark Gray
Secondary Treated – Wastewater	Gray
Tertiary Treated – Wastewater	Purple
Return Activated Sludge (RAS)	Dark Brown
Waste Activated Sludge (WAS)	Dark Brown
Compressed Air	Dark Green
Backwash / Wash Water Waste	Light Brown
Polymer Feed	Orange
Fire Protection	Red
Potable Water	Dark Blue

In addition, all pipes will be marked with identification markers and indicate direction of flow. All valves will be provided with stamped number identifiers. A list of valves, identifying numbers, intended use, and normal position will be maintained in the facility operation and maintenance manual.

Flood Protection

The buildings will not be susceptible to flooding during a major storm event since the entire facility will be elevated at least five feet above the 100-year flood elevation. The site will have storm water retention ponds to handle a 100-year storm event. Further details on storm water retention are provided in the *Palm Valley WRF Drainage Report* (PACE, February 2001).

Erosion Control

A Stormwater Pollution Prevention Control program will be prepared in accordance with NPDES requirements. Final design of treatment facility grading, drainage, and erosion control has been submitted to the Maricopa County Flood Control District and has gained approval.

Effluent Disposal and Re-use

Primarily, effluent will be stored in lined golf lakes within the City of Goodyear and Litchfield Park to be used for irrigation at golf courses and parks located within LPSCo service area. Because golf course and park demand for the reclaimed water will be less than the amount produced, a secondary discharge system is available northwest of the Palm Valley WRF for effluent storage (seven million gallon reservoir) and distribution. Ultimately, the storage facility may also facilitate groundwater recharge. A further detailed discussion on effluent utilization and disposal will be provided in the *Litchfield Park Service Company Effluent Management Plan* (PACE, April 2001).

The intended reuse application will be for unrestricted access landscape irrigation. Therefore, the mandatory effluent water quality requirement includes disinfection to a

fecal coliform count less than 25/100 ml (5 day median) and less than 75/100 ml (single sample maximum). Irrigated areas, along with effluent handling and storage systems, will be posted with required signage reading, "CAUTION: RECLAIMED WATER - DO NOT DRINK" on a purple background. All on-site reclaimed water pipelines and sprinkler fixtures shall be color coded purple for reclaimed use identification.

The anticipated high water quality (low BOD, low nutrients) of the discharged effluent, along with the relatively low application rates, suggest no odor problems for spray-irrigated areas. Measures to be implemented for odor control include the discontinuance of irrigation, recirculation of effluent in storage lakes for further treatment, and application of odor reducing agents.

Hazardous Materials

The wastewater treatment facility will not accept any hazardous materials. LPSCo will develop and implement a pre-treatment program for commercial and industrial users and will conduct periodic tests and inspections to identify illegal dumping into the sewage collection system.

Spill Management Plan

158th part
of 69th
Manual?
The following plan is a recommended course of action **only**; LPSCo staff members will develop a working Spill Management Plan, as well as other management plans for proper operation and maintenance of the Palm Valley WRF.

This spill management policy is directed by the use of "best management practices" (BMP) for the identification, containment and clean up of any hazardous material spill related to the operation and maintenance of the wastewater treatment facilities.

The operation of the treatment plant and associated facilities will be under the direct supervision of LPSCo. They will provide all necessary materials and funds required for proper operation and maintenance. Proper and routine facility maintenance is the key to preventing unauthorized spills.

? || At no time, with the exception of raw domestic wastewater, will hazardous materials be stored on-site. The daily plant operations and processes do not require the use of hazardous chemicals or materials. Table 2 list the potential pollutants of concern and sources of contamination:

Table 2. Potential Sources of Hazardous Material Spill at Palm Valley WRF

Hazardous Material Description	Sources of Possible Contamination
Raw Domestic Wastewater	Mechanical or Electrical System Failure Causes System Overflow
Reclaimed Wastewater	Run-off From Irrigation Fields and Plant Hydraulic Overload
Screened Solid Waste Material	Improper Material Handling and Disposal
Sodium Hydroxide (Caustic)	Leak from Storage Tank
Sodium Hypochlorite	Leak from Storage Tank
Fertilizers	Run-off From Irrigation Fields
Machine Oil	Improper Maintenance of Mechanical Equipment

As part of the daily operations of the wastewater treatment facility, raw domestic wastewater will enter the plant and be stored on-site for processing. Installed redundant pumping systems have been provided throughout the treatment process. In the event of electrical failure, emergency back-up power will be provided by the stand-by generator for uninterrupted normal operations of the entire Phase I facility.

Solid domestic wastes will be removed [?]daily from the raw domestic wastewater stream by the screening station. These solids will be comprised mostly of solid inorganic material, paper products, and grit. The material will be removed from the screen, conveyed, dewatered, bagged, and placed in a disposal container. All drain water will be directed back to the screening box and reintroduced into the waste stream for treatment. The influent screens, the grit vortex, and associated dumpsters will be located entirely indoors in the headworks room. The air contained within the headworks room will be exchanged and scrubbed continuously. At no time, will the maintenance staff be permitted to leave the container uncovered or otherwise exposed to the elements. The maintenance staff shall contract with a licensed waste disposal company to periodically remove the contents of the containers and haul it to a sanitary landfill for proper disposal. LPSCo will apply for and obtain a waste disposal permit for hauling and disposal of screened and grit waste.

Caustic, acid, and sodium hypochlorite, used for odor scrubbing, will be stored in bermed chemical storage tanks within close proximity to the odor scrubber units. In the event of a release, the chemicals will be confined within surrounding berms, collected, and conveyed directly to the influent lift station. NO

Certain conditions may arise where the use of fertilizers is required for the maintenance of the on-site irrigation areas. When in use, fertilizer will be used in accordance with the manufacture's specifications and shall not be applied in excess of required dosage.

All materials required for proper maintenance of mechanical machinery will be stored on-site in a dedicated maintenance facility. When lubrication of machinery is required, the maintenance staff will transport the oil directly to the unit and follow the manufacturer's recommended procedure for lubrication. After service is complete, all unused volumes will be returned to their allocated storage area.

Confined Space and Safety Issues

All standard safety requirements will be adhered to during construction, operation and maintenance the Palm Valley WRF. Because the facility has covered tanks and an enclosed headworks area, OSHA Confined Space Entry Requirements will apply to the facility.

Tank entry is not required during normal operation and maintenance of the reactors and associated equipment. The jet aeration manifolds do not require any service or maintenance. The jet mixing pumps will be installed on guide rails for easy retrieval from the top of the tank. The access to each of the SBR pumps is located outside of buildings. Other submersible pumps can be accessed via a forklift from inside of the buildings by full drive approach access.

During tank maintenance, the associated reactor will be drained, cleaned, and the mechanical and structural systems will be inspected. Maintenance personnel performing this service will be required to be thoroughly knowledgeable of OSHA, Title 8, Section 5158 and related requirements including respiratory and fall protection, lockout, and fire prevention. In addition, the tank atmosphere will be continuously monitored for hazardous gas/toxin accumulation. Ancillary air ventilation will be provided prior to entry and an OSHA approved safety hoist will be available in case of emergency exit. The following sections from Title 8 apply:

- 5158(d)(11) and 5158(e)(1) - Respiratory Protection
- 5158(e)(1)(D) and 5158(e)(2)(A) – Standby Employee
- 5158(d)(1) – Feasible Entry and Exit Provisions
- 5158(e)(2)(B) – Effective Means of Communication
- 5158(d)(5)(A) – Continuous Atmosphere Testing

The operation staff will be required to enter the headworks area on a routine basis for operation and maintenance of the screening and grit equipment. Ventilation will be provided to allow for a minimum of six changes per hour. On-line gas detection and monitoring equipment will be provided in these areas along with emergency respiration and fire extinguisher equipment. The gas monitoring equipment will transmit information to the plant controls and SCADA system for data logging and alarming. Operators will be able to verify atmospheric conditions prior to entry.

All submersible pumps and mixers will be supplied with FM approval, certified for "Explosion Proof" installation in Class I, Division I service areas. All control panels and associated wiring terminal boxes and pull boxes in the headworks and sludge processing areas will be NEMA 4X (Gas tight).

III. TREATMENT AND DISPOSAL

A. Existing Project Flows

Existing flows (currently to Goodyear WWTP) for the Palm Valley WRF are largely residential and are expected to remain so based on proposed developments in surrounding regions in the LPSCo service area. Existing flow and biological loading data were obtained from the Goodyear WWTP, as well as, data from a composite sampler and flow meter specific to the LPSCo service area. This information is provided in Appendix A. From the existing data and composite samples taken, PACE assumed an average biological loading of 300 mg/l BOD, 300 mg/l TSS, and 45 mg/l TKN. The hydraulic design of the facility provides for a maximum month daily flow (MMDF) capacity of 4.1 MGD, a peak day flow of 8.2 MGD (2.0 x MMDF) and a peak hour flow of 11.1 MGD (2.7 x MMDF). The peaking factor of 2.7 was conservatively based on flow monitoring. For the monitoring period from September through November (peak months), the peak flow did not exceed 2.5 times the average daily flow. The maximum differential between the highest peak flow and the lowest average flow was less than the 2.7 factor during monitoring. Increases in flow with future development to the design 4.1 MGD rate will most likely decrease the peaking factor as compared to the year 2000 data.

Table 3.
Sept-Nov 2000 Average Influent Flow Characteristics
from LPSCo Service Areas

Average Wastewater Flow Influent MGD	1.1
Average Influent BOD5 (mg/l)	200
Average Influent TSS (mg/l)	230
Average Influent TKN (mg/l)	38

B. Current and Projected Population

For the purpose of the MAG 208 filed in August 2000, four regional areas were used to define the total LPSCo service area. These four areas include the City of Goodyear's RAZ 265, 266 (Litchfield Park), the Stardust Development service area, and the Wigwam Creek service area. For planning purposes, these areas are expected to contribute wastewater flow to the proposed wastewater treatment plants. Figure 4 illustrates the areas that make up the complete LPSCo service area.

Table 4 summarizes the population projection for each of the four service areas through the year 2020. The population numbers presented for RAZ 265 and 266 are taken from the June 1997 Maricopa Association of Governments (MAG) *Socioeconomic Projections Interim Report*. The Stardust Development and the Wigwam Creek Development service areas were assumed to be excluded from the RAZ 265 and 266 population numbers and are taken from separate sewer conveyance studies by SMF Engineering and Black & Veatch LLP.

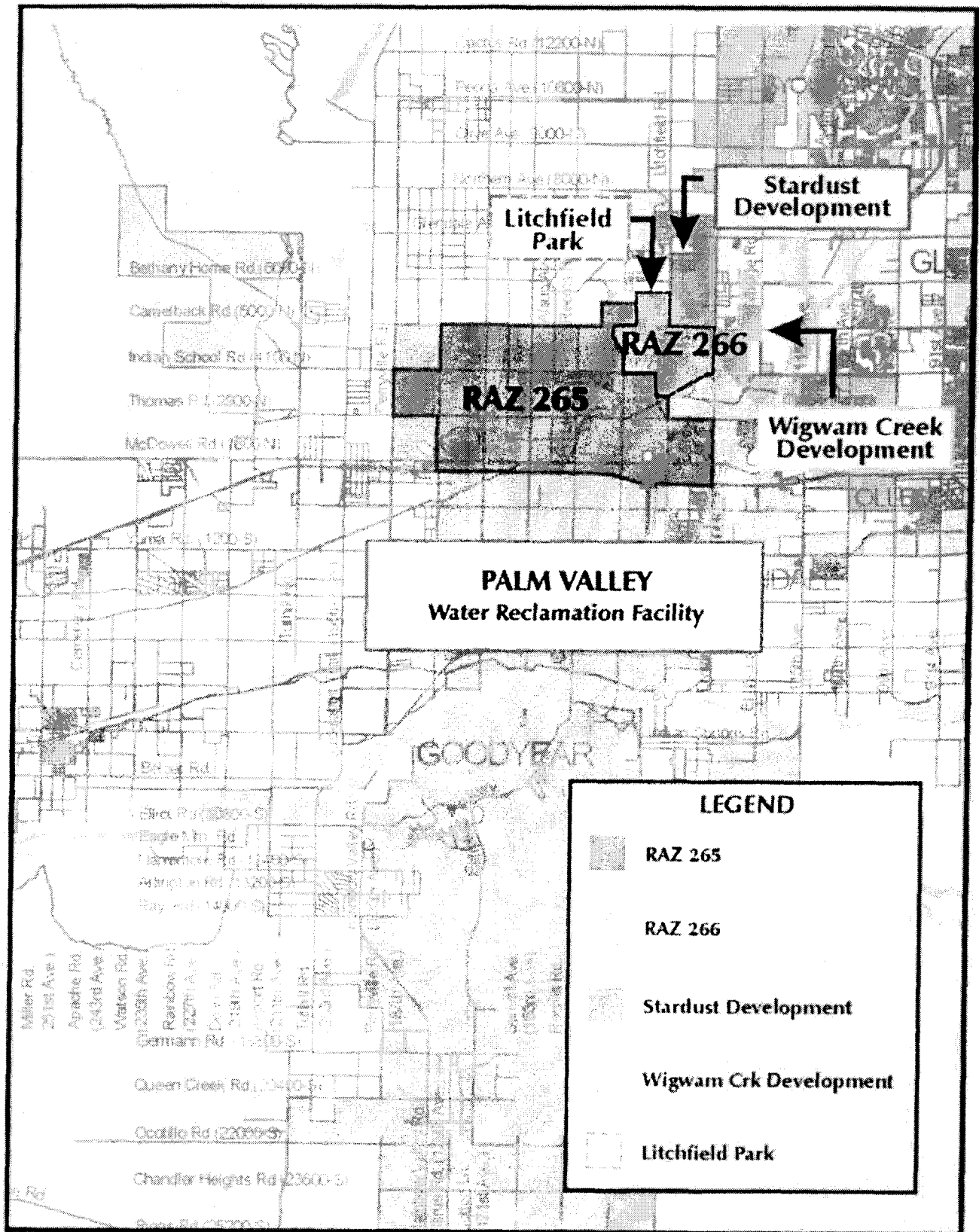


Table 4. Population Projection for LPSCo Service Area through 2020

Population by Planning Area					
Year	RAZ 265 ¹	RAZ 266 ¹ (Litchfield Park)	Stardust Development ²	Wigwam Creek Development ²	Total
2000	8,671	4,876	3,011	3,746	20,304
2005	11,336	6,517	6,500	7,200	31,553
2010	14,410	8,452	8,600	10,700	42,162
2015	20,493	12,561	Built-out	Built-out	52,354
2020	30,139	14,688	Built-out	Built-out	64,127

- Notes:**
1. Source: June 1997 MAG Socioeconomic Projections Interim Report.
 2. Calculated by P.A.C.E. Full build-out AAD flows were taken from the Draft Stardust/Wigwam Creek Conveyance and Treatment Study. Full build-out for Stardust and Wigwam Creek was assumed for the years between 2008 and 2010. Calculation assumptions: Unit flow of 100 gpcpd and a 50% population increase every five years.

Future wastewater flows were studied in *Addendum Number 2 to the Wastewater Master Plan Litchfield Master Planned Community* (SMF Report) that was prepared by SMF Engineering Corporation in January 1998. Black and Veatch prepared the Preliminary Wastewater Planning Study for SunCor and Litchfield Park Service Company in July 1998. The SMF Report only provides full build-out wastewater flow projections. The Black & Veatch report used the full build-out wastewater flow projections from the SMF Report and calculated the flow projections over time. Table 5 summarizes wastewater estimates based on MAG and Black & Veatch population estimates:

Table 5. Wastewater Flow Projections in LPSCo Service Area through 2020

Year	Wastewater Flow Projections (MGD)			
	Based on MAG Projections		Based on Black & Veatch Report	
	AAD	Peak Hourly	AAD	Peak Hourly ¹
2000	2.03	4.47	1.32	3.56
2005	2.66	5.85	3.12	8.42
2010	3.43	7.55	5.49	14.82
2015	4.79	10.54	7.87	21.25
2020	6.41	14.10	10.24	27.65

¹ Calculated by P.A.C.E with a peaking factor of 2.7.

The wastewater flow projections from the Black & Veatch Report generally have a higher annual average day (AAD) flow than the MAG interim projects. For the purpose of this design, the Black & Veatch population numbers (and therefore the sewer flow rates) are assumed to be more accurate because the Black & Veatch report was specific to the Goodyear North Planning Area where as the MAG projections are based on countywide modeling. It is important to note that the reports from MAG, Black & Veatch, and SMF use AAD as their primary flow unit. AAD is the average daily flow for one year. The maximum month daily flow (MMDF), which is used in this report, is the average daily flow in the month of the year with the highest cumulative flow. Therefore, MMDF represents higher flow than the AAD, providing a more conservative design.

C. Treatment Alternatives

To determine the best design alternative to meet LPSCo's need for increased wastewater treatment capacity, two treatment methods were analyzed based on cost of construction, anticipated effluent quality and cost of operations and maintenance. Only treatment methods that include nitrogen removal technologies were considered. These treatment methods were:

- Oxidation ditch
- Sequencing batch reactor (SBR)

Of these two alternatives, SBR's offer advantages in terms of construction costs, land required, ease of expansion and operational flexibility that make the sequential batch reactor the most viable treatment alternative. The following is a list of benefits associated with using the SBR treatment method:

- Lower initial capital cost
- Higher degree of operational flexibility with respect to quality of effluent and D.O. controlled aeration system.
- Complete quiescent settling for improved TSS removal.
- No additional clarifiers
- Both systems are proven treatment processes.
- Capacity up-grades and phasing do not require modification or interruption of current treatment process.
- Completely enclosed, automated headworks and sludge processing with odor control allows set-backs to be reduced to 150'
- A completely enclosed treatment basin with odor control provides reduced setbacks and process temperature stability.
- All equipment installed with-in masonry building structures reduces noise and provides comfortable service conditions for operations staff.
- Effluent quality meets current and proposed ADEQ class A+ standards for reuse/recharge
- Effluent quality meets current and anticipated future nitrogen requirements for surface discharge.
- High degree of automation reduces operational staff requirements
- Significantly smaller footprint requires less site work and yard plumbing.
- Sludge digestion and processing meets EPA 503 standards for reuse and potential sale
- UV disinfection produces no harmful by-products.

The following is a list of disadvantages associated with using the SBR system

- New treatment process requires some re-training of existing operations staff
- Automation requires knowledgeable operators
- SBR system has slightly more mechanical equipment than the standard surface-brush oxidation ditch. However, the SBR facility uses multiple, smaller units for ease of maintenance and servicing.

D. Project Wastewater Reclamation System Description

The development of the Palm Valley WRF will occur in two phases; of these, only Phase I is addressed in this report. The site layout of Phase I is shown in Figure 5.

The Phase I facility will provide 4.1 MGD of capacity using a Sequential Batch Reactor (SBR) design. This facility will provide screening, grit removal, primary flow/load equalization, secondary biological oxidation, biological nutrient removal, secondary clarification, secondary flow equalization, filtration, UV disinfection, autothermal thermophilic aerobic digestion (ATAD), and sludge dewatering.

The proposed SBR treatment system will provide an advanced level of treatment for reuse in landscape irrigation and groundwater recharge. The design sizing for the SBR treatment facility, is listed below.

Design Capacity	- Maximum Month Average Day Flow (MMDF)
Treatment Capacity	- Maximum Day Generation (2.0 x MMDF)
Hydraulic Capacity	- Peak Hour/Storm Flow Condition (2.7 x MMDF)

Note: The 2.7 peaking factor applied is based on current and projected flow patterns identified in both the SMF Engineering and Black and Veatch studies performed on the collection system that ranged from 1.9 to 2.7. Actual flow data from September 2000 through November 2000 showed an average daily peaking factor of 1.9 and maximum peaking factor of 2.5 (see Appendix A).

The capacity figures for Phase I of the Palm Valley WRF are included in Table 6 and design calculations are provided in Appendix B.

Table 6
Basis of Design and
Unit Process Capacity Information

Palm Valley WRF

Phase I

Design Flows
Maximum Month Daily Flow (MGD)
Peak Day Flow (2.0*MMDF) (MGD)
Peak Hour Flow (2.7*MMDF) (MGD)

4.1
8.2
11.1

Influent Parameters

BOD5 (mg/l)
TSS (mg/l)
TKN (mg/l)

300
250
40

Effluent Parameters

BOD5 (mg/l)
TSS (mg/l)
TN (mg/l)
Turbidity (NTU)
Coliform (fecal) (FCU/100ml)

<5
<5
<3
<2
non-detected

Influent Lift Station

Length (feet)
Width (feet)
Area (ft2)
Maximum Liquid Depth (feet)
Minimum Liquid Depth (feet)
Working Volume (gallons)

25.25
25.25
638
7
3

Pumping Capacity w/ largest Unit Out of Service (GPM / MGD)

Pump #1 Capacity (Flygt 3300 - 75 HP)
Pump #2 Capacity (Flygt 3300 - 75 HP)
Pump #3 Capacity (Flygt 3300 - 75 HP)

19,076
7700 / 11.0
3850 / 5.5
3850 / 5.5
3850 / 5.5

Headworks

Screen #1 Capacity (GPM / MGD)
Screen #2 Capacity (GPM / MGD)
Total Screening Capacity (GPM / MGD)
Grit Removal Capacity (GPM / MGD)

3850 / 5.5
3850 / 5.5
7700 / 11.0
8400 / 12.0

Table 6
Basis of Design and
Unit Process Capacity Information

<u>Anoxic Reactor</u>	
Length (feet)	106.25
Width (feet)	52.25
Normal High Liquid Depth (feet)	15.0
Minimum Liquid Depth (feet)	6.6
Area of Anoxic Reactor Excluding Lift Station (ft ²)	4781.4
Total Working Volume (gallons)	588,936
Average Hydraulic Retention Time (Hours)	1.7
Maximum Liquid Depth (feet)	26
Surge Volume (Including 1 Batch) (gallons)	800,515
Minutes of Surge Storage @ Peak Hour Flow	104
<u>Mixing Systems</u>	
Mixing Type	Jet Aeration
Number of Mixers	1
Mixing HP	45 HP
Aeration Capacity (CFM)	1000 CFM @ 7 PSI
Blower HP	40 HP
<u>SBR Fill Pumps</u>	
Number of Fill Pumps	3
Capacity of Fill Pump Ea. (GPM)	5500
Fill Pump HP (all pumps VFD)	45 HP
<u>SBR Reactors</u>	
Type of Treatment	SBR
Number of Reactors	2
Length (feet)	160.25
Width (feet)	52.25
Maximum Liquid Depth (feet)	25
Working Volume / Reactor (gallons)	1,565,763
Average Hydraulic Retention Time (Hours)	18.3
Total HRT for Anoxic + SBRs	20.1
Decant Depth (feet)	6.5
Decant Volume / cycle (gallons)	407,098
Decant Rate (GPM)	11,389
Design MLSS (mg/l)	3500
Design SRT (days)	10.9

Table 6
Basis of Design and
Unit Process Capacity Information

<u>Cycle Times (min) at Max Month Daily Flow</u>	
Fill	
Interact	37
Settle	106
Decant	45
Idle	36
Total Time Per Cycle	62
Number of Cycles / Day / Reactor	286
Total Available Aeration Time per Cycle (Min / Hrs)	5.0
Total Available Aeration Time per Day (Hrs)	202 / 3.4
	6.9
<u>Aeration and Mixing Systems</u>	
Mixing Type	
Design Oxygen Transfer Efficiency	Jet Aeration
Air Requirement per Basin per Day (CF) Based on BOD & TKN	0.2
Total Available Aeration Time per Day (Hrs)	2,220,645
Design Aeration Timer per Day (Hrs)	6.9
Design CFM per Basin	12.0
Number of Mixers / Reactor	3,084
Number of Jets per Mixer	4
Total Number of Jets per Basin	32
Design CFM per Jet	128
HP per Mixer	24.1
Total Number of Blowers	45 HP
Aeration Capacity per Blower (CFM)	5
Blower HP	1500 @ 11 PSI
	100 HP
<u>Decant Surge Tank</u>	
Length (feet)	
Width (feet)	52.5
Max Liquid Depth (feet)	52.5
Minimum Liquid Depth (feet)	16.9
Working Surge Volume (gallons)	3.0
Number of Filter Feed Pumps (all VFD)	286,573
Capacity of Each Filter Feed Pump (GPM)	2
	1000 - 5700

Table 6
Basis of Design and
Unit Process Capacity Information

<u>Cleanwell</u>	
Length (feet)	52.5
Width (feet)	25.5
Max Liquid Depth (feet)	21.0
Minimum Liquid Depth (feet)	3.0
Working Volume (gallons)	180,249
<u>Effluent Filtration System</u>	
Filter Type	Aquask - 8 (Woven Fabric)
Number of Units	3
Filtration Area per Filter Unit (SF)	463
Ave. Filtration Capacity @ 3 GPM / SF (all in service)	4167
Peak Filtration Capacity @ 8 GPM / SF (one unit out of service)	7408
Backwash Flow Rate (GPM)	130
Backwash as % Through Put	0.75%
Total Backwash Volume / Day (gallons)	30,750
<u>UV Disinfection System</u>	
UV Type	Medium Pressure
Number of Banks	7
Capacity / Unit @ 100 mJ/cm ² and 65% Transmittance (GPM)	1000
Number of Lamps / Bank	6
KW Rating of Lamp	6
Total KW Installed	252
Average KW During Operation @ Average Day Flow	119.6
% of Total Capacity @ Average Flow	47.5
<u>Sludge Digestion and Processing</u>	
Type (Option 1- Class B)	Aerobic Digestion
Number of Reactors	2
Length (feet)	79.5
Width (feet)	52.5
Normal High Water Surface (feet)	16
Total Liquid Volume per Digester (gallons)	499,514
Design Sludge Yield Factor	0.80
Lbs of Dry Solids / Day from Secondary Treatment @ SYF = .8	8,207
Volume of WAS per Day @ 2500 MLSS (gallons)	393,600
Max Flow Rate to Thickener (GPM) @ 16 hrs/day	410
% concentration after thickening	4
SRT per Digester (Days)	20.3

Table 6
Basis of Design and
Unit Process Capacity Information

Type (Option 2- Class A)	Autothermal Thermophilic Aerobic Digestion
Number of Reactor	3
ATAD Length	52.5
ATAD Width	25.5
ATAD Working Depth	19.0
Working Volume per reactor (gallons)	190,263
Mixing Type	Jet Aeration
Number of Mixers per ATAD Chamber	1
HP per Mixer	45 HP
Number of Blowers per ATAD Chamber	1
Aeration Capacity per Blower (CFM)	2000 @ 8.5 PSI
Blower HP	100 HP
Gallon of Sludge at 4%	23,582
Design Temperature for Class A (Deg C) Required for 23.1 hrs	55
% VSS Reduction at Design Temperature	38
Grams of Solid Oxidized	1,133,997
Kcal of heat produced by Microbes	4,082,391
Kcal of Heat Loss through Walls	775,109
Kcal of Heat Required to Raise Temp. of Sludge	3,124,035
Total Kcal of Heat Required	3,899,144
<u>Sludge Dewatering</u>	
Type of Centrifuge	Noxon DC20FC
Number of Units	1
Ave. Loading Capacity of Centrifuge (GPM)	88
Pounds of Sludge to Centrifuge per Day	5,712
Gal of Sludge to Centrifuge per Day	23,582
Design % Solids in Feed	3
Design % Solids in Cake	20
Design Solids Loading Rate (lbs/hr)	1279
Total Hours of Operation / Day	4.5
Centrate Flow (GPM / Unit)	75
Design Polymer Requirements (lbs Polymer / Ton Dry Solids)	50
Gallon of Neat Emulsion Polymer Required / Hr	11.0
Gallon of Dilution Water/ Min	73

1. Phase I Process Design Description

The Phase I design of the Palm Valley WRF will provide screening, grit removal, primary flow/load equalization, secondary biological oxidation, biological nutrient removal, secondary clarification, secondary flow equalization, filtration, UV disinfection, and Autothermal Thermophilic Aerobic Digestion (ATAD) sludge digestion. The proposed plant design is based on a variant of the Sequential Batch Reactor (SBR) process. The SBR process combines secondary treatment (aeration) with secondary clarification in a single reactor tank operating in a "fill" and "draw" mode. The process flow schematic is shown in Figure 6.

Influent Lift Station:

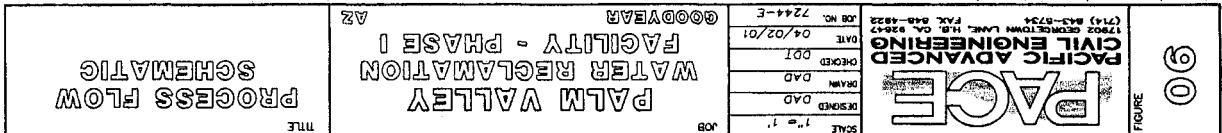
Wastewater will enter the facility through a 36-inch ductile iron pipe to the influent lift station located directly underneath the headworks building. The lift station will be a partition inside the facility's anoxic reactor and will be approximately 25 feet wide, 25 feet long, and 37 feet deep. Because the invert of the sewer connection is 30 feet below grade, the lift station profile will extend 7 feet below the sewer influent line to prevent surcharge of the sewer. The 7 feet, including some freeboard, provides a working volume of approximately 19,000 gallons.

With an anticipated peak hour flow of 11.1 MGD (4.1 MGD x 2.7 peaking factor), three 75-hp pumps will be installed at the bottom of the lift station to provide 11.1 MGD at 60 feet of head with the largest pump out of service (3850 gpm per pump). The pumps will be controlled by a continuous level measurement sensor. The wet well control system will automatically rotate operation of the pumps as lead, lag and stand-by, with the lead pump operating as a VFD driven pump. The controller will maintain normal operating depths of 5.5 feet above the sump floor (high) and 3.0 feet above the sump floor (minimum). By-pass contactors will be installed on each influent pump starter to allow the pumps to operate at full speed if the VFD drive fails. Appendix B contains the pumping sequence for the lift station, without VFD operation, to indicate the most severe operating cycle times, and motor starts per hour.

A non-intrusive, gravity flow meter will be installed in a manhole upstream from the lift station. The flow meter will be an electromagnetic open channel flow meter and will provide accurate instantaneous and totalized flow functions. The signal from this meter will be fed back to the plant controller for data logging and SCADA control functions.

Is there a
back up sensor?

Is there
a back up
VFD?



The anoxic reactor will contain three 45 HP SBR fill pumps and one 32-jet aeration manifold connected to a submersible 45 HP jet mixing pump. If needed, air can be supplied to the anoxic reactor from the SBRs' positive displacement blowers to pre-treat BOD and ammonia before entering the SBR reactors. In this mode of operation, the anoxic reactor is converted into a pre-aeration surge tank and allows the facility to treat beyond an average day flow of 4.1 MGD with one of the two SBR reactors out of service. Mixing operations will be automatic and can be adjusted through the main control panel or SCADA system.

The three submersible SBR fill pumps will be installed with a variable frequency drive controller. The pumps will automatically rotate between lead (VFD), lag, and stand-by. Based on the level in the anoxic reactor, the fill pumps automatically alternate filling the "in-loop" SBR reactor and providing return activated sludge (RAS) back to the anoxic reactor. The fill pumps are identical to the anoxic and SBR reactor jet mixing pumps to provide additional reliability and operations flexibility. Each fill pump has a capacity of 5,500 GPM at 22 feet of head. Therefore, two pumps in operation (11,000 GPM) are more than capable of meeting the peak hourly flow of 7,700 GPM (11.1 MGD) with one unit out of service.

The liquid level in the anoxic reactor controls the operation of the anoxic reactor and the two SBR basins. When the level in the anoxic reactor reaches the pre-set high level of 15 feet above the main floor, the influent valve to SBR 1 is closed and the influent valve to SBR 2 is opened. The mixing and aeration in SBR 1 is turned off and the reactor is sent into timed "settle" mode. When the settle timer times-out, SBR 1 enters the "decant" mode of operation. While SBR 1 is in "settle" and "decant" modes, two of the fill pumps in the anoxic reactor fill SBR 2. When SBR 2 reaches the crest of the RAS weir (constructed as part of the tank cover support structure) aerated mixed liquor spills over the weir and runs in the trough back to the anoxic reactor. SBR 2 is now said to be in "interact" mode because the SBR reactor is "in-loop" with the anoxic tank. This "interact" mode continues until the anoxic pre-set high liquid level is again reached at which time the influent valve to SBR 2 closes and the influent valve to SBR 1 opens and the cycle starts again. The high level set point of 15.0 feet in the anoxic reactor allows for peak hour flow surge storage up to a depth of 26.0 feet. This additional 14 feet of storage allows for the SBRs to maintain fill and draw operation up to the peak hour flow without a fill/decant scenario. In single tank mode, the operator can lower the anoxic reactor high level set point to additional influent storage and anoxic / aerobic pre-treatment in the anoxic reactor during settle and decant. In this respect, the facility is designed as a three-tank SBR (one tank in series with the other two in parallel).

During the "interact" mode, the SBR reactor "in-loop" acts as the aeration basin, providing dissolved oxygen for BOD₅ reduction and ammonia conversion. When the nitrified mixed liquor flows back to the anoxic reactor, the high carbon content, low D.O. and high degree of mixing provides optimal conditions for denitrification. In addition, as with traditional SBR technology, the operator will have the ability to

cycle air delivery on and off in the SBR reactors to facilitate further reduction in total nitrogen and energy savings due to reduced mechanical equipment operation.

The RAS troughs in the SBRs also provide scum removal during the "interact" phase. As scum develops on the water surface of the SBR, it is flushed into the trough and returned to the anoxic reactor. The mixing in the trough and the free-fall into the anoxic reactor will re-entrain the scum into the water, reintroducing it back into the system for subsequent biological food mass.

Sequential Batch Reactors

From the anoxic reactor, water is pumped to one of two SBR reactors. Each of the reactors has a total working volume of 1,556,000 gallons. These basins provide mixing and aeration via submerged jet aeration manifolds and positive displacement blowers. Each reactor contains four 45 HP jet mixing pumps, four 32 jet mixing manifolds and six 19 foot long fixed, solids excluding decanters. Each mixing pump provides 5,500 GPM at 22 feet of total dynamic head to drive the jet aeration system. The 1,500 CFM blowers are staged and cycled on and off automatically by the PLC controller based on operator set points. Five blowers are provided for the pair of SBR reactors, two blowers can provide up to 3000 CFM per basin with the fifth blower installed as backup. Because air is not delivered on a continuous basis, electrically actuated valves control which SBR reactor the blower manifold output is connected to. In this respect, all five blowers are available to each of the SBR basins. Therefore, the maximum aeration rate of each SBR basin is limited by the maximum aeration rate of the jet nozzles. With 128 jet nozzles per basin and a maximum aeration rate of 50 CFM per nozzle, the maximum aeration rate per SBR basin is 6400 CFM (50 x 128). During normal operation, the aeration system is designed to deliver 23.4 CFM per nozzle or 3000 CFM per basin. If one of the motor operated valves is out of service, the blowers can be paired and isolated for independent aeration of each SBR at 3000 CFM.

Each blower will be supplied with a sound reduction enclosure. The enclosure will reduce the anticipated noise level of 95 dBA to approximately 80 dBA. In addition, the blowers will be housed in a masonry building, which will provide an additional 6dBA reduction outside of the structure. Operators will be required to wear ear protection when working in and around operational blowers.

The SBR reactors and associated equipment have been designed to reduce the incoming Biological Oxygen Demand (BOD) from an average concentration of 300 mg/l to less than 5 mg/l (more than 98% removal). In addition, the aeration system will provide complete nitrification of average influent ammonia concentrations of 40 mg/l.

The SBR basins will cycle mixing and aeration to provide a significant degree of denitrification. As indicated above, mixed liquor suspended solids will be returned to the anoxic reactor for conditioning and further denitrification.

The facility will be able to self regulate dissolved oxygen levels in both SBR reactors and the anoxic reactor. This will be accomplished by programmable logic control (PLC) and D.O. sensors located in the reactor basins. The control system for the facility will allow both D.O. and timed modes of aeration control.

Based on a level signal from the anoxic reactor, the SBR basins will operate in sequence for the purpose of settling. When an SBR basin enters the settling mode, all inflow is diverted to the other SBR reactor. The timed settle period provides a quiescent tank in which unhindered settling is rapidly achieved. With an anticipated 45 minute settle period, the plant design allows for settle depths of several feet below the 6.5 ft decant depth (approximately 410,000 gallons). During settle and decant, complete isolation (no fill) is maintained up to the peak hour flow rate.

In the scenario where one SBR basin is out of service, the facility can be operated to process wastewater at the design flow rate. The treatment process will be altered slightly by having the anoxic reactor participate in the aerobic wastewater treatment process. Normally, the anoxic reactor will operate at only half its volume (i.e., the high water level is only at 15 feet instead of 26 feet). However, because the additional volume in the anoxic is designed to accommodate one full batch and has all the mixing and aerating capabilities of the SBR, the anoxic reactor would perform as both an equalization tank and an aeration tank. By mixing and aerating the incoming influent prior to sending it to the SBR, it effectively reduces the amount of aeration required in the SBR, hence reducing the overall reaction time needed in the SBR reactor. In addition to volume capacity, the air needed to handle the BOD loading is more than sufficient due of the blower configuration. The blowers that are typically assigned to the SBRs can be reassigned to the anoxic reactor by adjusting manual air valves, supplying up to 1600 CFM of air to the anoxic reactor. In this mode of operation, the anoxic reactor acts as an SBR with no settle or decant and can effectively reduce the BOD and ammonia entering the SBR reactor. The SBR reactor provides cyclic aeration to complete the oxidation of BOD and ammonia and provide denitrification.

In addition, equipment, such as pumps and manifolds, are chosen and sized to allow for equipment redundancy. In cases where an SBR basin has to be taken out of service because of mechanical reasons, the failed equipment can be replaced within a few hours. The jet pumps and fill pumps in the SBRs, ATADs, aerobic digesters, and the anoxic reactor are all the same model. Thus, if one pump is out of service, another pump (such as an installed redundant pump) can be used to replace the failed pump.

Headworks – Screening and Grit Removal

The headworks will be installed inside the operations building. The system will consist of two identical mechanical screens with ¼" openings. Each screening system will include automatically cleaned screen surface, spiral solids conveyer, high pressure solids washer, solids de-watering compactor, and solids bagging unit. Each screen unit will have a peak capacity of 5.55 MGD for a total screening capacity of 11.1 MGD. An internal weir within each screen unit will provide for unattended, automatic overflow by-pass of the screens. The screening units will be supplied as complete packaged systems constructed out of 304 and 316 stainless steel and enclosed in a box to reduce odor emissions into the screening room.

From the screens, wastewater will flow by gravity to a vortex grit removal unit. The grit removal unit will be constructed from stainless steel and be provided complete with a control panel and air circulation blowers. The grit unit will be fully covered with an integrated stainless steel cover. The grit unit will have a peak capacity of 12 MGD. A by-pass pipeline and manual valve will allow the operator to isolate the grit unit for service and cleaning.

Grit will be periodically pumped from the grit hopper located at the bottom of the unit and sent to a grit screw classifier where grit will be conveyed and de-watered for disposal.

Additional headworks equipment for the ultimate 8.2 MGD plant will be installed in Phase II.

Anoxic Reactor:

From the headworks, wastewater will flow by gravity to the anoxic reactor located directly below the headworks building. In the normal mode of operation, the anoxic reactor will be used to provide process stabilization through hydraulic and biological load equalization. The anoxic reactor is approximately 106 feet long, 52 feet wide and 26 feet deep. Because the anoxic reactor houses the lift station, the total area of the anoxic reactor is reduced to 4781 ft². At 26 feet deep, the volume of the anoxic reactor is approximately 930,000 gallons. However, to allow service to the lift station and provide operator flexibility and system redundancy, a 25-foot wide, 11-foot deep channel with a sluice gate will be provided connecting the lift station and the anoxic reactor. The channel provides an additional volume of 52,750 gallons in the anoxic reactor. A hard-piped headworks by-pass line will also be installed, allowing the operator to by-pass the screens and grit removal unit in case the lift pumps or the SBR fill pumps are not available.

The sluice gate and by-pass line allow the operators to use the lift pumps to fill the SBRs through the by-pass line in the event that the SBR fill pumps are not available. Vice-versa, the SBR fill pumps can be use to lift the raw influent directly to the SBRs if the lift station pumps are not available. Therefore, the two pump stations back each other and prevent surge charge of the sewer system.

Decant Surge Tank

Upon completion of the settle time, six and a half feet of water will be decanted at a rate of 11,400 GPM from the SBR reactor into a surge tank. The surge tank has a working volume of 286,500 gallons. With this volume, the tank provides a hydraulic buffer for downstream processes. The surge basin contains two VFD vertical turbine pumps (one redundant). Each pump has a peak capacity of 5,700 GPM at 36 feet total dynamic head and a minimum pumping rate of 1000 GPM. When the level in the surge tank is between the high and low level set points, the discharge rate of the filter feed pumps will be automatically adjusted based on the average wastewater flow rate into the facility. The average incoming wastewater flow rate will be computed by the main PLC every 15 minutes based on information provided by the influent flow meter located on the discharge to the influent lift station. In the absence of signal from the influent flow meter, the flow will be maintained at an operator pre-set value. When the basin level is below the low set point, the feed pump will operate at the minimum 1000 GPM - *will then work at min flow* flow rate. When the level is above the high set point, the filter feed pump will operate at a peak flow rate of 5,700 GPM.

Tertiary Filtration

Secondary treated wastewater will be discharged from one of two filter feed pumps to one of three Aquadisk, 8-disk, pre-packaged filter units. The Aquadisk is a synthetic media, gravity filtration process manufactured by Aqua-Aerobic Systems, Inc. Extensive pilot studies have been conducted since 1992 using the Aquadisk technology. Results of pilot tests from Fountain Hills Sanitary District - AZ, North Gila County Sanitary District - AZ, and Titusville - FL as well as design calculations and drawings are provided in Appendix C of this report. Based on the results of the tests at Fountain Hills, the district is currently eliminating traveling bridge filters and installing the Aquadisk filtration system.

Each Aquadisk filtration unit consists of 8 woven fabric covered disks (see Figures 7A and 7B). Secondary wastewater enters the filtration unit through the influent control valve and is distributed evenly in the filter vessel by the influent weir. As water flows through the media, solids are retained on the cloth. Filtered water is collected within the sub-structure of the disk and conveyed to the center collection shaft. The collection shaft is connected to the sidewall of the filter vessel and is free to rotate about its center axis. From this connection, water flows up and out of the discharge port on the other side of the filter unit. As solids accumulate on the media, the difference between the influent and effluent level increases until it reaches 12" at which time automatic backwash is initiated. The backwash process uses a set of two vacuum shoes, which are fixed close to the surface of the media. During backwash, a motor and chain drive unit rotates the disks as the vacuum shoes remove solids from the media. Each 8-disk unit will backwash 2 disks at a time with a maximum backwash waste rate of 130 GPM. The other 6 disks remain in service during backwash. It is estimated that the total backwash volume will be 0.75% (30,750 gallons) of the treated volume at maximum monthly design flow (4.1 MGD). The backwash water will be

returned to the head of the plant for re-treatment. Because of the relatively low return rate, the filter operation will not have an impact on secondary treatment capacity.

Each filtration unit has an average day treatment capacity of 2.0 MGD (1390 GPM) and a maximum treatment capacity of 5.33 MGD (3700 GPM). Three units will be installed to provide a complete redundant filtration unit. Each filtration unit will be supplied with its own PLC control panel and starters for all packaged equipment. The control system will be networked to the SCADA system for on-line monitoring and data logging. An on-line turbidity monitor will be installed on the discharge from the filtration system to monitor effluent quality. The turbidity meter will be connected to the SCADA and auto-dial alarm system.

The filtration system is designed to receive secondary treated wastewater with an average TSS of 15 mg/l and produce effluent with less than 5 mg/l TSS. The effluent turbidity will be maintained at less than 2 NTU. In addition, a polymer feed system will be provided to ensure that effluent quality is met. If TSS break through occurs, polymer may be added prior to filtration to coagulate the suspended solids for ease of filtration.

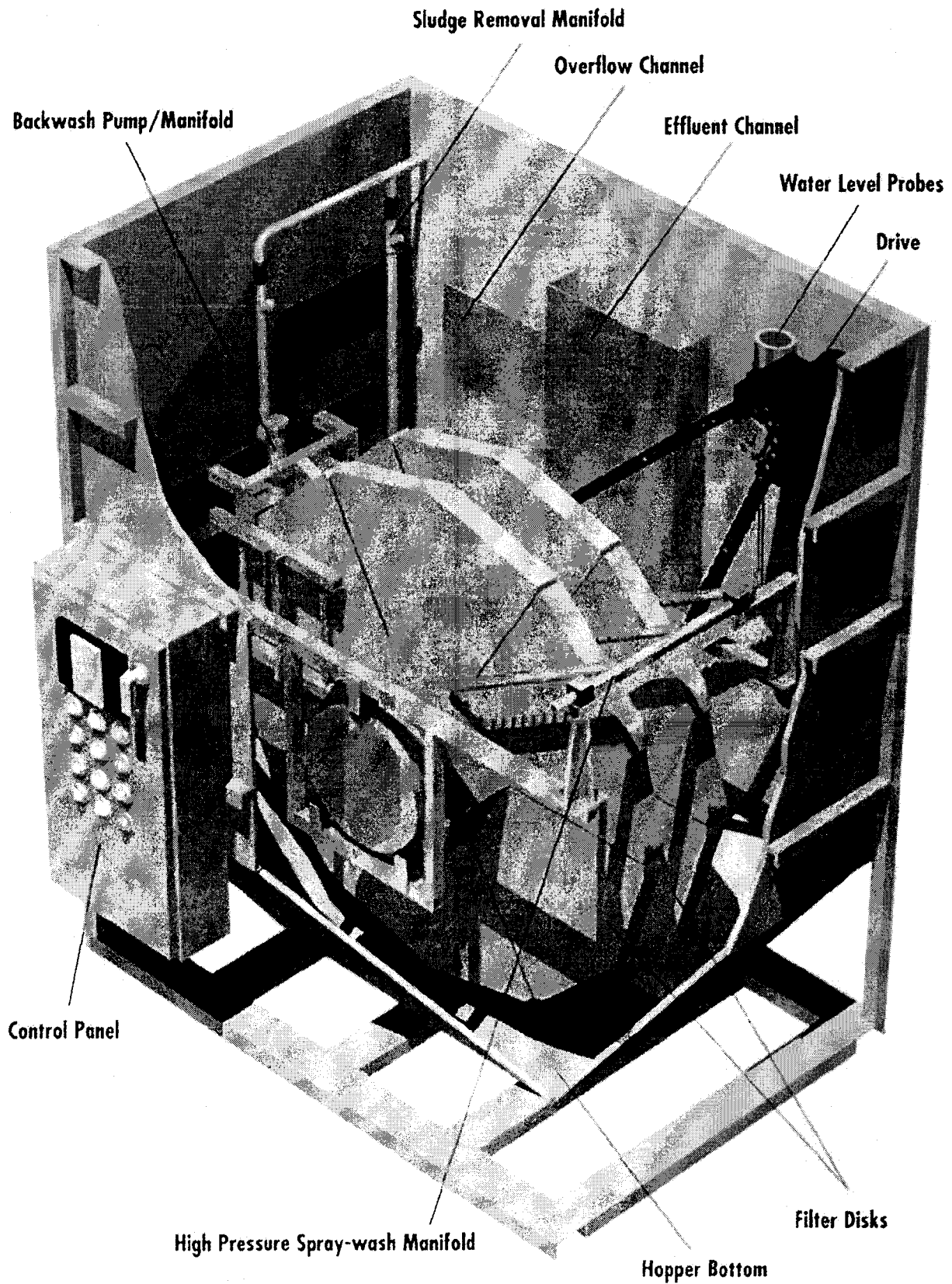
Clear Well/Discharge Pump Station to UV Units

From the disc filters, secondary-treated water will flow by gravity to the UV pump station/clear well. This tank will be constructed by sub-partitioning the decant surge tank. This tank will contain three VFD vertical turbine discharge pumps. Each of these pumps will have a capacity of 2850 GPM at 120 feet total dynamic head. These pumps will operate based on high and low level set points in the clear well and a variable speed controller. As the level rises in the clearwell, the lead pump will increase its discharge rate until full speed is achieved at which point the full speed starter on the lead pump will activate and the lag pump will be called to run at low speed. If the clear well continues to rise, the lag pump will increase discharge rate up to its maximum speed. With a low water level of 3 feet off the tank floor and a high water level at 21.0 feet, the usable pumping volume in the clear well is 180,250 gallons.

Failure mode?

The clear well is also design to provide adequate chlorine contact time for further disinfection in the event there is failure to the UV system. A chlorine system utilizing calcium hypochlorite tablets will be installed above the clear well to provide slide stream chlorine injection if needed. Calcium hypochlorite was selected because of its long storage life and health and safety advantages over sodium hypochlorite (liquid bleach). With an average volume of 90,000 gallons the average contact time for the tank will be $(90,000 / 5700 \text{ GPM})$ 15.8 minutes at peak day flow.

The discharge pump station will be equipped with an electronic flow meter to continuously transmit instantaneous and totalized flow to the PLC. This data will be used to report final discharge volumes and assist in plant process performance evaluations.



PACE PACIFIC ADVANCED CIVIL ENGINEERING	DATE	02/2001	TITLE	AquaDisk Filter System	FIGURE 7A
	PAGE		JOB NAME	Palm Valley Wastewater Reclamation Facility	JOB NO. 7244E

APPLICATIONS

Tertiary Treatment

- Conventional activated sludge
- Extended aeration activated sludge
- SBRs
- Oxidation ditches
- RBCs
- Trickling filters

Reuse/recycle

Industrial process streams

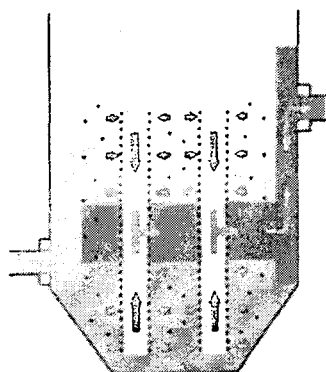
Phosphorus removal

Color removal

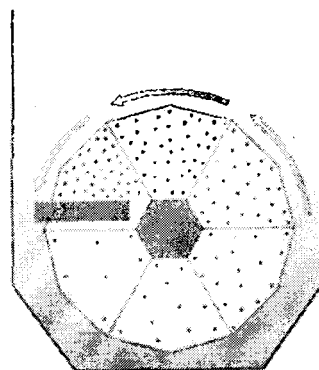
Lagoon effluent

Precipitate removal

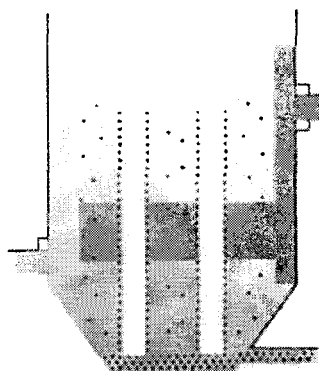
OPERATION OF THE AQUADISK



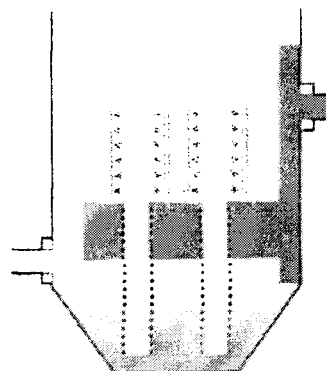
A Inlet wastewater enters the tank or basin. By gravity, liquid passes through the cloth membrane. As solids accumulate on the media, a mat is formed, and the liquid level in the tank or basin increases. The filtered liquid enters the internal portion of the disk where it is directed to final discharge.



C At a predetermined level or time, the backwash cycle will be initiated. Solids are backwashed from the surface by liquid suction from both sides of each disk. During backwash, disks are cleaned in multiples of two, unless a single disk unit is utilized. Disks rotate slowly, allowing each segment to be cleaned. Backwash water is directed to the headworks. Filtration is not interrupted during this cycle.



B The AquaDisk filtration process requires no moving parts during filtration. Tank contents remain in a quiescent environment, allowing heavier solids to settle to the bottom portion of the filter tank. These solids are then pumped on an intermittent basis back to the headworks, digester or other solids collection area of the treatment plant.



D An automatic, intensive cleaning process can be initiated as needed to thoroughly clean and prevent any biogrowth on the cloth media. This cleaning process is achieved by a high-pressure spray which is an integral feature of the AquaDisk. All operational functions are automatic and are controlled by a simple PLC.

UV Disinfection

Secondary treated wastewater will be pumped from the clearwell through pressurized units equipped with ultraviolet light (UV) bulbs. Thus, water is subject to UV radiation for the purpose of disinfecting the water for re-use/recharge. The UV system is designed to provide a non-detectable fecal coliform concentration (i.e., <2.2 CFU). This level of disinfection is well below the current Arizona state standards for unrestricted reuse of <25 CFU/100 ml. In addition, the facility is designed to provide a non-detect on enteric viruses and parasites as required by ADEQ Class A standards.

The UV system consists of seven identical closed vessels, medium pressure units. Each UV unit contains six 6 KW lamps, UV transmission monitor/probe, temperature sensor and automatic cleaning wipers. The UV lamps are controlled by a PLC control panel. Each panel contains six variable output electronic ballasts and touch-screen controls. The PLC receives information from the transmittance probe and flow meter and automatically adjusts the lamp output to maintain the pre-set UV dose. Alternatively, the system can be operated to maintain constant UV output or constant power input. During periods of low flow, the electronic ballasts allow the controller to decrease power input down to 20% and operate in a "warm" state. From this operation mode, the UV units can go to full power within seconds and do not require warm-up time for full capacity. If extended periods of low flow occur (more than 1 hour in "warm" state), the unit will enter shut down mode. All flow to the unit will be automatically stopped and the system will turn off. From a complete shut down, the UV system will require approximately 15 minutes to re-develop full UV output.

Each unit is sized to provide a dose of 100 mJ/cm² at a maximum flow rate of 1000 GPM and a wastewater transmittance of 65% at 1 cm. An engineer's report of the UV system will be supplied by the manufacturer and will include a detailed set of calculations and performance criteria. The seven units will be installed in parallel with one unit installed as a redundant back up. With one bank out of service, the total UV capacity will be 6000 GPM (8.65 MGD) at 100 mJ/cm² and 65% transmittance at 1 cm. Each of the banks will be provided with a control panel and touch-screen interface.

Reclaimed Water Distribution Tank

A hydropneumatically pressurized 1000 gallon tank will store disinfected effluent on site for wash down water and landscape irrigation. The tank will be connected directly to the effluent discharge line to provide a constant supply of reclaimed water to the storage tank. A feed pump is activated to refill the tank at a pre-set low water level in the tank, and an air compressor provides the pressure in the tank as water is discharged from the tank.

Sludge Storage, Processing and Disposal

As with all activated sludge treatment processes, waste sludge will be produced and will require processing for disposal. The facility will be equipped with three Autothermal Thermophilic Aerobic Digestion (ATAD) chambers and two aerobic digesters placed in series with the ATAD units. ATAD is capable of providing 38% reduction in volatile suspended solid (VSS) and reducing pathogen, bacteria, and other parasites to below detection limits as required by EPA 503 Requirements for Class A sludge reuse.

Each ATAD chamber will be approximately 52.5 feet in length and 25.5 feet in width, with a working depth of 19 feet. The total volume for each chamber is 190,263 gallons. The post-ATAD aerobic digesters will be 79.5 feet in length and 52.5 feet in width, with a maximum fluid depth of 21 feet. The total volume for each aerobic digester is 655,600 gallons.

The Phase I facility will employ only two of the three ATAD reactors and one of the two post-ATAD aerobic digesters. The other two remaining basins (one ATAD and one aerobic digester) will be constructed, but no mechanical equipment will be installed in these basins until Phase II. These basins will be kept empty for emergency process storage. At a sludge production rate of 23,580 gallons per day (after digestion), the second aerobic digester provides 27.8 days of sludge storage.

Waste sludge (mixed liquor at a concentration of 0.35%) from the anoxic reactor will be bled off the SBR anoxic jet pump at a rate of 200 to 300 GPM and fed to one of two rotary drum thickeners before entering the ATAD batch reactor. At the design average day flow rate of 4.1 MGD, influent BOD₅ of 300 mg/l, and a sludge yield factor of 0.8, the facility will produce approximately 8,210 pounds of dry solids per day or 281,140 gallons of waste sludge at 0.35%. When thickened to approximately 4.0% with a rotary drum thickener and polymer, the total volume of sludge produced is approximately 24,600 gallons per day.

Once thickened, the sludge will be fed to the ATAD batch reactor. Since the ATAD process requires that sludge be batch fed into an isolated chamber within 30 minutes and kept isolated for 23.1 hours at temperature greater than 55 °C, the first chamber will be used as a receiving basin or batch holding tank while the other ATAD reactor operates as a quick fill / quick discharge reactor.

The ATAD process works by maintaining aerobic digestion at an elevated temperature (55 °C to 70 °C) using heat produced by microbes during volatile solid oxidation. In order for the ATAD process to work, the available heat produced by microbial metabolism must be greater than the required heat needed to raise the temperature of the incoming sludge (batch) to 55 °C and overcome the heat loss of the tankage system. With 24,600 gallons of sludge treated per day, the heat required to raise the temperature of incoming sludge from ambient (68 °F / 20 °C) to 131 °F / 55 °C is calculated to be 10.77×10^6 BTU/ day. The heat loss through the chamber walls is estimated to be 3×10^6 Btu/ day. Therefore, the total heat required is 13.85×10^6 BTU/ day. The heat produced through microbial

oxidation is calculated to be 14.2×10^6 BTU/ day or 350,000 BTU/ day more than the heat required. In addition to the heat produced by biological activity, heated air is added to the system from the blowers. The air introduced to the system via the aeration blowers is at an elevated temperature of 180 °F.

Once the sludge has been stabilized in the ATAD chambers, the sludge is discharged to the first aerobic digester. The sludge digester system also provides flexibility in that it gives the operator the option to run the plant using traditional aerobic digestion (no thermal treatment) to meet Class B sludge. In Class B mode of operation, the sludge follows the same flow path, with the ATAD reactors operated to maintain the reactor temperature in the mesophilic range by reducing the oxidation and therefore heat generation.

In Phase I, one 90 GPM centrifuge will be installed in the building above the ATAD reactors and will be used to dewater the sludge stored in Aerobic Digester No. 1. The centrifuge will have a maximum solids loading rate of approximately 1600 pounds per hour. The amount of dry solids wasted from the digestion process to the centrifuge has been estimated to be 5,712 lbs per day, requiring 3.2 hours of centrifuge operation per day.

In the event that the centrifuge is out of service, additional sludge storage capacity can be provided in the aerobic digesters. Each digester has a volume of approximately 655,600 gallons. At approximately 24,600 gallons of sludge per day, the dormant aerobic digester can store sludge for at least 27.8 days.

Polymer requirement for the centrifuge will be approximately 50 to 60 pounds of polymer per ton of solids, producing a cake output of greater than 20%. Assuming 5,712 pounds of solids going to the centrifuge per day, the average polymer consumption will be 157 pounds per day.

The dewatered sludge will be discharged to 20 cubic yard roll-off containers. At LPSCo's discretion, the sludge will be tested to meet EPA 503 class A bio-solids requirements for reuse. It is the intention of the design to meet class A bio-solids requirements.

Odor Control

The treatment facility will be provided with passive (covers) and active (mechanical) odor control systems. All basins are constructed with concrete covers to reduce odor emissions and provide a ventilation conduit for collecting off gases.

In the SBR building, foul air from the headworks (screens and grit units), the anoxic reactor, and SBRs will be directed to a mechanical odor scrubbing system. The system will be comprised of one RJ Environmental Lo-Pro 5000 (10,000 CFM) wet chemical (caustic & chlorine) odor scrubber. The fan supplied with the odor scrubbing unit will create a negative pressure, drawing air through the plenum of each process unit and between the water surface and the tank cover in each reactor. Each intake will have a manually adjusted damper to equalize

airflow. The SBR building odor scrubber has been designed to reduce incoming average H₂S concentrations from an average of 25 ppm by 99.5%. See Appendix C for a detailed design of the odor scrubbing units.

Similarly in the sludge processing building, the odor scrubbing system will pull foul air from the sludge dewatering equipment, the ATADs, and the sludge dewatering room. Because of the complexity of the off gases associated with the ATAD process, a three-stage caustic, chlorine and acid scrubber unit was selected. Ammonia, released during thermophilic aerobic degradation, will be treated in the initial stage with sodium hydroxide (caustic) to eliminate its corrosive potential. Other gases such as hydrogen sulfide and dimethyl sulfide will be treated in the second and third stages using a combination of caustic and bleach. The unit will be a Lo-Pro 4000 and will treat up to 6,000 CFM. The scrubbing system will handle H₂S peak of 50 ppm and continuous operation at 25 ppm H₂S with 99.5% removal efficiency in addition to treating the complex ATAD odors to non-detectable levels.

Both Lo-Pro wet scrubbers will be installed with redundant fans in case of mechanical breakdown. In addition, a backup carbon scrubber will be on-site and easily connected to the ventilation system for periods of service on the two main wet scrubbers.

Tables 7 and 8 summarize airflow requirements for the sludge processing building and the SBR building, respectively.

Table 7. Airflow Requirements for the Sludge Processing Building

Description of Area	Tank Floor Surface Area (A)	Average Plenum Height (H) (ft)	Total Air Volume (V) (ft ³)	Air Changes per Hour (X)	Air Volume per Hour (Q) (ft ³ /hr)
Sludge Dewatering Room	4,200	10	42,000	5	210,000
ATAD No. 1	1,338	3	4,010	10	40,100
ATAD No. 2	1,338	3	4,010	10	40,100
ATAD No. 3	1,338	3	4,010	10	40,100
				Total	330,300
Required CFM					5,505
CFM Provided					6,000

Table 8. Airflow Requirement for the SBR Building

Description of Area	Tank Floor Surface Area (A)	Average Plenum Height (H) (ft)	Total Air Volume (V) (ft ³)	Air Changes per Hour (X)	Air Volume per Hour (Q) (ft ³ /hr)
Anoxic Reactor/ Wet Well	3,020	4	12,080	6	72,480
Headworks Room	2,500	12	30,000	6	180,000
Ancillary Equipment	NA	NA	<500	16	8,000
SBR Reactors	16,746	3.0	50,240	6	301,440
				Total	561,920
Required CFM					9,365
CFM Provided					10,000

Note: $V = A \times H$
 $Q = V \times X$
 $CFM = ft^3/hr / 60$

"Ancillary equipment" includes all equipment with internal, sealed covers (i.e. (2) screens, grit vortex, and grit classifier)

2. Phase I Facility Operations

The 4.1 MGD treatment facility will have a high degree of automation and will provide unmanned operation for a significant amount of the workday. It is anticipated that the facility, operating near capacity, will require 80 – 120 hours per week of operator attention. Most of the operations will be controlled by PLCs that receive set point and operational parameters from the operator interface (PC). A detailed Supervisory Control and Data Acquisition (SCADA) system will provide on-line monitoring of plant process and automated dial-in/dial-out capability from the PC terminal located in the operations building.

The facility will require the following major mechanical equipment:

- (2) Mechanical Screens w/ Screw Conveyor/Washer/Compactor/Bagger
- (3) 75 HP VFD Influent Pumps (lift station with one redundant)
- (1) Vortex Grit Removal/Grit Separator w/Grit Classifier
- (3) 45 HP VFD Fill Pumps (one redundant)
- (1) 45 HP Submersible Jet Pump (anoxic reactor)
- (8) 45 HP Submersible Jet Pumps (four per SBR basin)
- (5) 100 HP Positive Displacement Blowers (two per SBR basin and one redundant)
- (2) 45 HP Submersible Jet Pumps (1 per ATAD chamber)
- (3) 100 HP Blowers (1 per active ATAD reactor and 1 for post-ATAD Digester)
- (2) 45 HP Submersible Jet Pumps (Pos-ATAD aerobic digester)
- (2) 75 HP VFD Turbine Filter Feed Pump (one redundant)
- (3) 125 HP VFD Turbine Discharge Pump (one redundant)
- (3) Package Aquadisk 8 Disk Filter Unit (one redundant)
- (7) 36 KW Medium Pressure UV Lamp Banks (one redundant)
- (1) 10,000 CFM Multi-Stage Odor Scrubber (SBR Reactors and Headworks Building)
- (1) 6,000 CFM Multi-Stage ATAD Odor Scrubber (Solids Processing Building and ATAD Reactors)
- (1) 90 GPM / 1600 lbs per hour Centrifuge
- (2) Rotary Drum Thickeners (one redundant)
- (3) Polymer Feed Systems (one for thickeners, one for centrifuge, and one for disk filter system)
- (1) 1500 KW Back-up Generator

*Maybe
could consider
but not peak*

The peak anticipated power demand for the Phase I facility is approximately 1500 KW and will have an average power consumption of 780 KW-Hrs/Hr of operation at full flow capacity (see sizing calculation for the generator in Appendix B). Assuming \$0.075/Kw-Hr, the anticipated power cost is approximately \$0.34/1000 gallons treated.

The plant will be operated by a State of Arizona Class 4 or higher certified operator. Testing and regularly scheduled maintenance of the plant should require 120 hours per week from a well-trained team of individuals with major maintenance and operations assistance, as required. The Engineer, in accordance with ADEQ requirements, will provide a detailed operation and maintenance manual including regularly scheduled maintenance items, design and operational instructions, and equipment service manuals.

The licensed plant operator will provide water samples to an approved laboratory for testing as required by state standards. Coliform testing will be performed at least once daily and turbidity will be monitored continuously at the discharge of the filtration system. The WRF will be furnished complete with all equipment necessary to perform on-site water analysis for the following:

- Settability
- Temperature
- Conductivity
- pH
- BOD₅
- COD
- Total Solids
- Total Suspended Solids
- Volatile Suspended Solids
- MLSS
- MLVSS
- Fecal Coliform
- Ammonia
- Nitrate

A list of laboratory equipment is provided in Appendix C.

3. **Commissioning of Phase I**

March 2012
Phase I will be commissioned in ~~December of 2001~~ and will provide a maximum month average day treatment capacity of 4.1 MGD. Water, power (prime and stand-by), control, telephone and effluent systems will be provided by local utility companies.

Two
Raw wastewater will be redirected from the existing lift station^a at Ballard Avenue and McDowell Road to the facility through a newly constructed manhole and a 36-inch gravity sewer pipeline. The lift station will be decommissioned and all flow will be directed to the new lift station contained in the new reclamation facility.

*and
McCormick Rd
w/o Littlefield Rd.*

To commission the facility, power will be turned on at the distribution panel, all mechanical and control systems will be checked, and a portion the existing 1.1 MGD flow (approximately 0.5 to 0.75 MGD) will be diverted to the Palm Valley WRF. LPSCo will coordinate the activation of the Palm Valley WRF with the City of Goodyear 157th Avenue WWTP so as to minimize the impact to the city's facility. The initial 0.5 to 0.75 MGD 1.0 MGD will help bring the new facility to operational mode. Once the facility is fully operational, all flows from LPSCo service area will be directed to the Palm Valley WRF.

Appendix A
Existing Flow and Biological Loading Data

A-1
Existing Flow Data

LPSCO OUTFALL FLOW DATA

DATE	AVE. FLOW	MAX. FLOW	PEAKING FACTOR
9/27/2000	761.8	1451	1.9
9/28/2000	757.1	1450	1.9
9/29/2000	749.5	1452	1.9
9/30/2000	799.2	1463	1.8
10/1/2000	836.9	1459	1.7
10/2/2000	776.3	1458	1.9
10/3/2000	771.4	1452	1.9
10/4/2000	740.5	1459	2.0
10/5/2000	766.3	1459	1.9
10/6/2000	788	1456	1.8
10/7/2000	841.3	1454	1.7
10/8/2000	810.5	1450	1.8
10/9/2000	809.8	1449	1.8
10/10/2000	776.3	1447	1.9
10/11/2000	762.5	1448	1.9
10/12/2000	775.5	1446	1.9
10/13/2000	777.4	1621	2.1
10/14/2000	838.7	1617	1.9
10/15/2000	853	1588	1.9
10/16/2000	797.2	1630	2.0
10/17/2000	781	1380	1.8
10/18/2000	763.7	1374	1.8
10/19/2000	761.3	1377	1.8
10/20/2000	764.2	1380	1.8
10/21/2000	1142	1809	1.6
10/22/2000	963.1	1803	1.9
10/23/2000	873	1382	1.6
10/24/2000	809.8	1381	1.7
10/25/2000	795.3	1370	1.7
10/26/2000	788.6	1365	1.7
10/27/2000	1121	1773	1.6
10/28/2000	877.9	1800	2.1
10/29/2000	856.2	1370	1.6
10/30/2000	823.2	1366	1.7
10/31/2000	740.2	1363	1.8
11/1/2000	768.4	1360	1.8
11/2/2000	797.3	1365	1.7
11/3/2000	841.6	1368	1.6
11/4/2000	842.6	1361	1.6
11/5/2000	876.8	1374	1.6
11/6/2000	786	1362	1.7
11/7/2000	767.3	1356	1.8
11/8/2000	793.4	1349	1.7
11/9/2000	751.9	1359	1.8
11/10/2000	781.2	1362	1.7
11/11/2000	844.7	1362	1.6
11/12/2000	876.7	1370	1.6
11/13/2000	802	1353	1.7

AVERAGE 770.1 1438.2 1.9

Flow data was provided by LPSCo for flow at the outfall to the City of Goodyear 157th Avenue WWTP (Site 001 4210 Flow Meter).

* High peaking factor due to roll-over flow from previous day.

LPSCO OUTFALL FLOW DATA

DATE	AVE. FLOW	MAX. FLOW	PEAKING FACTOR
8/7/2000	692.7	1325	1.9
8/8/2000	679.8	1623	2.4
8/9/2000	681.6	1327	1.9
8/10/2000	696.9	1327	1.9
8/11/2000	715.3	1347	1.9
8/12/2000	758	1351	1.8
8/13/2000	791.6	1353	1.7
8/14/2000	708.6	1354	1.9
8/15/2000	708.9	1343	1.9
8/16/2000	698.8	1343	1.9
8/17/2000	711.2	1342	1.9
8/18/2000	705.2	1734	2.5
8/19/2000	777.5	1386	1.8
8/20/2000	800.7	1346	1.7
8/21/2000	725.6	1345	1.9
8/22/2000	762.8	1343	1.8
8/23/2000	725.6	1348	1.9
8/24/2000	750.8	1527	2.0
8/25/2000	707	1415	2.0
8/26/2000	795.9	1420	1.8
8/27/2000	805.69	1427	1.8
8/28/2000	715.8	1418	2.0
8/29/2000	732.8	1417	1.9
8/30/2000	723.9	1427	2.0
8/31/2000	734.8	1432	1.9
9/1/2000	705.4	1432	2.0
9/2/2000	777.4	1425	1.8
9/3/2000	747.3	1430	1.9
9/4/2000	143.9	1402	9.7*
9/5/2000	70.05	71.63	1.0
9/6/2000	1021	1815	1.8
9/7/2000	748	1818	2.4
9/8/2000	731.8	1409	1.9
9/9/2000	804	1412	1.8
9/10/2000	831.2	1417	1.7
9/11/2000	743.3	1810	2.4
9/12/2000	739.2	1397	1.9
9/13/2000	754.7	1400	1.9
9/14/2000	749.2	1395	1.9
9/15/2000	707	1403	2.0
9/16/2000	785.1	1417	1.8
9/17/2000	839.5	1435	1.7
9/18/2000	745.6	1418	1.9
9/19/2000	739.3	1813	2.5
9/20/2000	756.5	1824	2.4
9/21/2000	741.6	1451	2.0
9/22/2000	734.4	1447	2.0
9/23/2000	805.3	1460	1.8
9/24/2000	824.4	1450	1.8
9/25/2000	765.4	1449	1.9
9/26/2000	741.7	1457	2.0

Flow data was provided by LPSCo for flow at the outfall to the City of Goodyear 157th Avenue WWTP (Site 001 4210 Flow Meter).

* High peaking factor due to roll-over flow from previous day.

A-2

Existing Biological Loading Data

**City of Goodyear 157th WWTP
Lab Results**

DATE	BOD Inf	TSS Inf	Alkalinity Inf	INF NH3	INF TN	INF TKN
05-Jan-00	260	140				
11-Jan-00	126	190				
21-Jan-00	278	320				
26-Jan-00	298	390				
03-Feb-00	221	190				
07-Feb-00						
08-Feb-00	106	190				
09-Feb-00						
08-Mar-00	240	300				
14-Mar-00	55 ps	180 ps				
16-Mar-00	230	250				
27-Mar-00	170	190	310	29		
29-Mar-00	220	240				
03-Apr-00	250	180		26	38	35
13-Apr-00	240	230				
18-Apr-00						
19-Apr-00	510 ps	250 ps	400 ps	34 ps		
26-Apr-00						1.6 weir
02-May-00	210	170	270	22		
17-May-00						
11-May-00						
15-May-00	170	150	290	28		
22-May-00	190	160	260	22		
31-May-00	280	290	290	23		
07-Jun-00	180	120				
14-Jun-00	170	700		24	41	41
21-Jun-00	190	280				
28-Jun-00	180	7				
29-Jun-00						
06-Jul-00	210	190				
17-Jul-00	180	190				
27-Jul-00	2	240	< 5	270		
02-Aug-00	13	170	< 5	180		
16-Aug-00	RUSH					
17-Aug-00	6.2	240	< 5	310		
22-Aug-00	RUSH					
23-Aug-00						
24-Aug-00						
06-Sep-00	11	130	< 5	200	7.58	
26-Sep-00						
04-Oct-00	31	200	< 5	170	7.6	230
13-Oct-00	12	140	< 5	130		
27-Oct-00						
02-Nov-00	11	180	< 5	190	7.45	
22-Nov-00						
30-Nov-00	9.4	210	< 5	190		
07-Dec-00	14	200	< 5	200	7.4	

ps = post screens
160.1 216.6

Appendix B
Lift Station Pumping Sequence /
Generator Sizing / Design Calculations

B-1
Lift Station Pumping Sequence

LIFT STATION PUMPING SEQUENCE

Operating Condition	Influent Flow Rate (gpm)	Stop Level 3' above FF pump volume (gal)	Start level 5.5' above FF pump volume (gal)	Pump Station Discharge Rate (gpm)	Time to Fill min	Time to Empty min	Total Cycle Time min	Total Starts per Hour*
Lift Station								
Low Flow	855	0.0	11981	3850	14.0	4.0	18.0	3.3
Average Flow	2850	0.0	11981	3850	4.2	12.0	16.2	3.7
Peak Flow	7695	0.0	11981	7700	2.2	2866.5	2868.7	1.0

* Assumed minimum of 1 start.

B-2
Generator Sizing Calculations

March 27, 2001

Sizerite 3.3.2 Generator Sizing
Option Data Viewing Screen

Project name - Palm Valley WRF Phase I 03/27/2001 5:02 PM
Spectrum genset model.....1500DS-4 Liquid Cooled
Alternator model.....7M4052 (OVERSIZED)
Voltage Phase, and Frequency.....277/480 volts, 3 phase, 60 hz
Fuel.....Diesel
Altitude (feet).....500
Temperature (F).....110
Generator's KW Standby rating.....1500.00
Generator's derated running KW's.....1480.20
Percent of available KW's used.....96.14
Generator's KVA rating.....1875.00
Maximum starting KVA at 20% Dip.....3142.86
Generator's power factor.....0.80

This generator meets the minimum requirements for a 20% voltage dip.
When loads are started as specified by the loads report.
Largest actual voltage dip is 13.97 %

NOTE: When the available KW's used exceeds 85%, please read the
following three notes before you specify this equipment:

1. During actual operation, the sequence of load application may vary from the data you input.
2. If motor code letters were assumed, actual motor starting could vary from the output data.
3. Reserve capacity for abnormal conditions or expansion is limited.

Spectrum offers the full line of generators sets and accessories
as well as other equipment which maybe required for this application
SUCH AS:

- Automatic Transfer Switches
- Bypass Isolation Switches
- Synchronized Switchgear
- Weather Proof Housings

If you have any questions regarding this application call your local
distributor or Spectrum, Applications Engineering Department, at 920-565-3381.

SPECTRUM GENERATORS
Sizerite 3.3.2 Generator Sizing - Loads Report
Project Date & Time: 08/15/2000 05:54 PM Model: 1500DS-4

Qty	Run KW	Run KVA	Run PF	Start KW	Start KVA	Description
Step - 1						
Loaded 45.00 Hp code F motor						
4	148.00	178.40	0.83	362.52	954.00	Jet Pumps Ta
Miscellaneous Load						
1	46.00	57.50	0.80	46.00	57.50	120/208 XFMR
Miscellaneous Load						
3	81.00	101.25	0.80	81.00	101.25	120/208 XFMR
Loaded 45.00 Hp code F motor						
1	37.00	44.60	0.83	90.63	238.50	anoxic jet p
Loaded 45.00 Hp code F motor						
2	74.00	89.20	0.83	181.26	477.00	Fill Pumps
Loaded 75.00 Hp code F motor						
2	124.00	146.00	0.85	96.36	292.00	Lift Station
Miscellaneous Load						

March 27, 2001

	1	216.00	216.00	1.00	216.00	216.00	UV System
Step Totals -		726.00	832.95	0.87	1073.77	2336.25	14% V. DIP
Step - 2							
Loaded 100.00 Hp code F motor	2	161.00	192.00	0.84	99.84	384.00	Blowers Tank
Loaded 45.00 Hp code F motor	2	74.00	89.20	0.83	181.26	477.00	Digester Pum
Loaded 45.00 Hp code F motor	2	74.00	89.20	0.83	181.26	477.00	Digester Pum
Step Totals -		309.00	370.40	0.83	462.36	1338.00	13% V. DIP
Step - 3							
Loaded 100.00 Hp code F motor	2	161.00	192.00	0.84	115.20	384.00	
Step Totals -		161.00	192.00	0.84	115.20	384.00	10% V. DIP
Step - 4							
Unloaded 25.00 Hp code F motor	2	42.00	49.00	0.86	111.30	265.00	odor control
Loaded 75.00 Hp code F motor	1	62.00	73.00	0.85	48.18	146.00	filter feed
Step Totals -		104.00	122.00	0.85	159.48	411.00	11% V. DIP
Step - 5							
Loaded 150.00 Hp code F motor	1	123.00	140.00	0.88	78.40	280.00	Discharge Pu ✓
Step Totals -		123.00	140.00	0.88	78.40	280.00	11% V. DIP
Total		1423.00	1657.35	0.86			

B-3
Design Calculations

Palm Valley Water Reclamation Facility
Design Calculations
H. David Stensel, Ph.D., P.E.
February 27, 2001

DESIGN CONDITION

Flow:

Average	4.1 Mgal/d
Peak Day	8.2 Mgal/d
Peak Hour	9.0 Mgal/d

Wastewater Parameters:

BODs	300 mg/L
TSS	250 mg/L
TKN	40 mg/L

Plant Design Load:

BODs	10,260 lb/d
TKN	1,368 lb/d
Temp.	20° C

Effluent Parameters:

BODs	< 5.0 mg/L
TSS	< 5.0 mg/L
TN	< 10.0 mg/L
Turbidity	< 2 NTU
Coliform (FCU/100 ml.)	non-detect

SAM Process Operation

Operation description:

A single anoxic tank operates with a variable depth and feeds each of the two aerobic tanks at appropriate times. When a cycle starts the aerobic tank receives an initial charge from the anoxic tank. The mixed liquor is pumped to the aerobic tank at a higher rate than the influent feed rate, so the anoxic volume is drawn down during feeding of the aerobic tank. The aerobic tank continues to receive anoxic mixed liquor as the anoxic tank is filling. The aerobic tank is now full and its mixed liquor overflows to the anoxic tank as the flow is pumped to it from the anoxic tank during the react cycle. The overflow from the aerobic tank feeds $\text{NO}_3\text{-N}$ to the anoxic tank, that was produced by aerobic nitrification of $\text{NH}_4\text{-N}$. The following tables show the time sequence and volume changes during a complete cycle for each aerobic tank. The system has two aerobic tanks: Aerobic 1 and Aerobic 2.

1. Cycle Times Per Aerobic Tank – given in design submittal by PERC:

Fill	37 min (mix during fill)
React	163 min
Settle	50 min
Decant	36 min
Total Time	286 min/cycle

$$\text{Number of cycles/day/tank} = \frac{1440 \text{ min/day}}{286 \text{ min/cycle}}$$

$$= 5.0 \text{ cycles/day}$$

$$\text{@ 2 tanks} = 10 \text{ fills/day}$$

2. Fill volume at average design load:

$$\begin{aligned} \text{Average volume/fill} &= \frac{4,100,00 \text{ gpd}}{10 \text{ fills/d}} \\ &= 410,000 \text{ gal/fill} \end{aligned}$$

$$\begin{aligned} \text{Fill Volume} &= \text{Aerobic Tank Decant Volume} \\ \text{Decant volume} &= 410,000 \end{aligned}$$

$$\begin{aligned} \text{Aerobic Tank Area} &= 160.25 \text{ ft} \times 52.25 \text{ ft} \\ &= 8373.1 \text{ ft}^2 \end{aligned}$$

3. Determine Decant depth:

$$\begin{aligned} \text{Decant Volume (gal.)} &= (\text{Decant depth, ft})(\text{anoxic tank area ft}^2) \\ &= (8373.1 \text{ ft}^2) 7.48 \text{ gal/ft}^3 \end{aligned}$$

$$\text{Decant Depth (ft)} = \frac{410,000 \text{ gal}}{(8373.1 \text{ ft}^2) 7.48 \text{ gal/ft}^3}$$

$$\text{Decant Depth} = 6.55 \text{ ft}$$

4. Determine maximum change in anoxic depth per fill

$$\text{Anoxic Tank Area} = 4781.4 \text{ ft}^2 \text{ (Table 7.0 PERC report)}$$

$$\text{Anoxic Tank Depth Change} = \frac{410,000 \text{ gal}}{(4781.4 \text{ ft}^2)(7.48 \text{ gal/ft}^2)}$$

$$\text{Anoxic Depth Change} = 11.5 \text{ ft}$$

5. The following shows the changes in anoxic volume and the cycle operation at different time using the cycle times provided by PERC

Δt min	Total Time (min)	CYCLE DESCRIPTION		
		Anoxic Volume	Aerobic 1 Volume/Condition	Aerobic 2 Volume/Condition
	0	Full	- 410,000 gal	Settle/Decant
		Start #1 fill	end of decant	Settle/Decant
+37	37	- 304,731 gal	Full/React	Settle/Decant
+107	144	Full	Full/React	- 410,000 gal
+37	181	- 304,721	Full/React	Full/React
+19	200	- 250,674	Start settle	Full/React
+50	250	- 108,419	Start decant	Full/React
+36	286	Full	- 410,000 gal	Full/React

@ 4.1 mgD, Flow = 2845.1 gpm

negative volume indicates at depth below full level

Both tanks are aerated for about 19 min. at the beginning of each tanks react period.

Aerobic Tank Nitrification Design

Average Daily Load To Each Aerobic Tank:

$$\begin{array}{rclclcl} \text{BOD} & = & 10,260 \text{ lb/d} & \div 2 & = & 5130 \text{ lb/d} \\ \text{TKN} & = & 1,368 \text{ lb/d} & \div 2 & = & 684 \text{ lb/d} \end{array}$$

Tank Volume at Full

$$\begin{aligned} &= (25 \text{ ft Depth}) 8373.1 \text{ ft}^2 \\ &= 209,327.5 \text{ ft}^3 \\ &= 1,655,769 \text{ gallons} \end{aligned}$$

1. Determine equivalent hydraulic retention times

2.

Equivalent Hydraulic Retention Time (HRT):

$$= \frac{1,565,769 \text{ gallons}}{2.05 \text{ mgal/d (1,000,000 gal/Mgd)}} \times 24 \text{ hr/d} = 18.3 \text{ hrs}$$

Equivalent Anoxic HRT

Anoxic tank working depth: 15 ft

$$\begin{aligned} \text{Anoxic Volume} &= (15 \text{ ft}) (4781.4 \text{ ft}^2) \\ &= 71,721 \text{ ft}^3 + 7,018 \text{ ft}^3 \\ &= 589,000 \text{ gallons} \end{aligned}$$

$$\text{HRT} = \frac{0.589 \text{ Mgal}}{4.1 \text{ MGD}} \times 24 \text{ hr/d} = 3.45 \text{ hrs}$$

2. Determine Aerobic Tank SRT

Assume that MLSS = 3500 mg/L – typical of SBR operations

There is sufficient depth in aerobic reactor during settling to handle a MLSS of 3500 mg/L, based on typical SVI achieved:

Assume SVI = 120 mg/L

$$\text{Thickened MLSS during settling} = \frac{10^6}{\text{SVI}} = 8333 \text{ mg/L}$$

MLSS mass full = MLSS mass in settled volume

$$25 \text{ ft (3500 mg/L)} = \text{sludge depth (8333 mg/L)}$$

$$\text{Sludge depth} = 10.5 \text{ ft.}$$

Liquid level above sludge depth after settling: $25 \text{ ft} - 10.5 \text{ ft} = 14.5 \text{ ft}$

Decant depth = 6.55 ft, So liquid depth below decant is $14.5 - 6.55 \text{ ft} = 7.95 \text{ ft}$
So sufficient depth in settle and decant period to handle MLSS of 3500 mg/L

To determine system SRT a solids balance is needed accounting for solids yield and BOD removal. The following is a standard equation for solids yield that accounts of biomass production and inert solids that enter with wastewater and are not degraded and accumulate in the system:

$$\text{Net Solids Yield: } \left(\frac{Y}{1 + b \text{SRT}} + Y_I \right) = Y_N$$

Y = g TSS/g BOD removal $\approx 0.60 \text{ g/g}$

b = 0.08 g/g-d

SRT = solids retention time, days

Y_I = g inert solids / g BOD $\approx 0.50 \text{ g/g}$

(MLSS) = $Y_N (\Delta \text{BOD}) Q (\text{SRT})$

Q = 2.05 Mgal/d

ΔBOD = 300 mg/L

V = 1.566 Mgal

Y_N = $\left(\frac{0.6}{1 + .08 \text{ SRT}} + 0.50 \right)$

MLSS = 3500 mg/L

Solve for SRT
Use spreadsheet:

$$(3500)(1.560) = \left(\frac{0.6}{1 + .08 \text{ SRT}} + 0.50 \right) (300)(2.05) \text{ SRT}$$

$$8.912 = \left(\frac{0.60 \text{ SRT}}{1 + .08 \text{ SRT}} + 0.50 \text{ SRT} \right)$$

SRT = 10.9 days

3. what is the net solids yield?

$$Y_N = \left[\frac{0.60}{1 + .08(10)} + 0.50 \right] = 0.80 \text{ g TSS/g BOD}$$

4. Determine the aerobic SRT, which accounts for the time that the mixed liquor is under aeration:

Aerobic SRT accounts for fraction of Aeration Time

$$\text{Aeration Time Fraction} = \frac{163 \text{ min React}}{288 \text{ min Total}}$$

$$\text{Aerobic SRT @ 3500 mg/L MLSS} = 0.57 (10.9 \text{ d})$$

$$= 6.2 \text{ days}$$

5. Determine if this SRT and MLSS concentration can result in satisfactory nitrification – good goal is to achieve NH₄-N concentration less than 0.5 mg/L – safe design level.

Because of recirculation through the anoxic tank with continuous feeding, the aerobic tank operation can be considered equivalent to a complete mix tank operation, so we can consider that the nitrifying bacteria growth rate is related to the aerobic SRT as follows. From this we can determine the NH₄-N concentration:

$$\frac{1}{\text{SRT}} = \mu = \frac{\mu_m N}{K_N + N} \quad \text{nitrification monod kinetics}$$

where: μ = specific growth rate of nitrifiers, g/g-d
 N = NH₄-N Conc., mg/L
 μ_m = maximum specific growth rate, 0.65 g/g-d @ 20° C
 K_N = 0.75 mg/L

(EPA Nitrogen Control Manual, 1993)

From above the aerobic SRT = 6.2 days

$$\frac{1}{\text{SRT}} = \frac{1}{6.2} = \mu = 0.161 \text{ g/g} \cdot \text{d}$$

$$0.161 = \frac{0.65 \text{ N}}{0.75 + \text{N}}$$

$$\text{NH}_4\text{-N} = 0.24 \text{ mg/L}$$

sufficient capacity for complete nitrification

Check safety factor for $\text{NH}_4\text{-N} = 0.50 \text{ mg/L}$ treatment goal.

$$\frac{1}{\text{SRT}} = \mu = \frac{(0.65)(0.50)}{(0.75 + 0.50)} = 0.26 / \text{day}$$

$$\text{SRT} = 1/0.26 = 3.84 \text{ days}$$

$$\text{Safety factor} = 6.2/3.84 = 1.61 \text{ (reasonable - can take N loadings at least 1.6X)}$$

Perform Nitrogen Balance to get amount of N oxidized

Nitrogen IN = nitrogen for synthesis + effluent N + N oxidized to nitrate

Nitrogen for synthesis:

$$\text{SRT} = 10.9 \text{ days @ } 3500 \text{ mg MLSS}$$

$$\text{Biomass Yield} = \frac{Y}{1 + b \text{ SRT}} = \frac{0.60}{1 + .08(10.9\text{d})} = 0.32 \frac{\text{gVSS}}{\text{gBODr}}$$

$$\text{Biomass Produced} = 0.32 \text{ g (300 mg/L BOD)} = 96.1 \text{ mg/L}$$

$$\text{@ } 10\% \text{ nitrogen, N synthesis} = 0.10 (96.1) = 9.6 \text{ mg/L}$$

Nitrate Produced:

$$\text{TKN} - \text{N}_{\text{syn}} - \text{NH}_4\text{-N} = \text{NO}_3\text{-N}$$

$$40.0 - 9.6 - 0.50 = \text{NO}_3\text{-N}$$

$$\text{NO}_3\text{-N} = 29.9 \text{ mg/L}$$

$\text{NO}_3\text{-N}$ Produced Per Feed Cycle:

$$= 29.9 \text{ mg/L (0.410 Mgal)} 8.34 = 102.2 \text{ lb/cycle}$$

Evaluate Nitrate Removal

1. Determine specific denitrification rate in anoxic zone

Denitrification Rate in Anoxic Tank can be related to BOD F/M Ratio
(EPA Nitrogen Control Manual)

$$\begin{aligned} \text{SDNR} &= 0.03 \text{ F/M} + 0.029 \\ \text{SDNR} &= \text{Specific NO}_3\text{-N reduction rate, g NO}_3\text{-N / g MLSS-d} \\ \text{F/M} &= \text{g BOD / gMLSS-d} \\ \text{F/M} &= \frac{(4.1 \text{ Mgal/d})(300 \text{ mg/L BOD})}{(3500 \text{ mg/L})(0.589 \text{ Mgal})} \\ \text{F/M} &= 0.60 \text{ g/g-d} \\ \text{SDNR} &= 0.047 \text{ g/g-d} \end{aligned}$$

To evaluate the nitrate removal capacity we have to determine the amount of nitrate that flows from the aerobic reactor to the anoxic tank and use the SDNR to determine if it can be sufficiently reduced.

2. Determine NO₃-N balance:

Since the reactor approaches a complete mix operation with the internal recycle, we can assume a relatively constant NO₃-N concentration in the aerobic reactor. The nitrate produced has to be accounted for as follows;

$$\begin{aligned} \text{NO}_3\text{-n produced} &= \text{NO}_3\text{-N effluent} \\ &+ \\ &\text{NO}_3\text{-N removed in aerobic reactor} \\ &+ \\ &\text{NO}_3\text{-N in overflow to anoxic reactor} \end{aligned}$$

Aerobic reactor nitrate loss – denitrification will occur in the mixed liquor during the decant and settle period when the oxygen is depleted and some will be removed during the 37 fill period. The SDNR for endogenous denitrification is in the range of 0.01 to 0.02 g/g-d. Assuming 0.01 the amount of NO₃-N removed during settling and decant is:

$$\begin{aligned} \text{Removed} &= \text{SDNR}(V)(\text{MLSS})8.34(\text{time}), \quad \text{Time} = 86 \text{ min} = 1.43 \text{ hours} \\ &= (0.01)((1.566)(3500)8.34(1.43/24)) \\ &= 27 \text{ lb/cycle} \end{aligned}$$

This is about 2 mg/L based on the tank volume, but 27 lb/cycle is significant.

To solve for the other components we need to assume an effluent NO₃-N concentration, which is acceptable since we have a treatment goal. Assume NO₃-N in effluent = 5.0 mg/L.

@ 5.0 mg/L effluent NO₃-N and 0.50 mg/L NH₄-N, we can comfortably meet TN < 10 mg/L

$$\text{lb/day in effluent} = 5.0 \text{ mg/L}(0.410 \text{ Mgal/cycle})(8.34) = 17 \text{ lb/cycle}$$

3. Determine how much NO₃-N must be removed in anoxic zone:

NO₃-N to be removed on anoxic zone = 102.2 lb/cycle - 27 - 17 = 58 lb/cycle
Determine amount of nitrate fed to anoxic reactor:

4. Determine nitrate feed rate to anoxic zone:

Flow to anoxic = 11,000 gpm(163min) = 1,793,000 gallons

At 5.0 mg/L NO₃-N = 5.0 (1.793)8.34 = 75 lb/cycle

5. Determine NO₃-N removal capacity of anoxic reactor:

The SDNR \cong 0.041 g NO₃-N/g MLSS-d

NO₃-N removal = (Volume) (MLSS) (SDNR) $\frac{\Delta t}{\text{cycle}}$ (8.34)

Anoxic Volume = 0.589 Mgal

Δt = 163 min = 2.772 hours = 0.113 days/cycle

NO₃-N removed = (0.589) (3500) (0.047) (0.113) 8.34
= 91.31 lb/cycle
91.3 > 75 lb/cycle

so more than sufficient capacity is available to remove the necessary amount of NO₃-N

DETERMINE OXYGEN REQUIRED

1. Oxygen for BOD Removal

Flow/Tank	= 2.05 Mgal
BOD	= 300 mg/L
NO ₃ -N Produced	= 29.9 mg/L
Effl. NO ₃ -N	= 5.0 mg/L

$$O_2 = [1.5] \frac{gO_2}{gBOD} (BOD)Q - 1.42P_{XBio}$$

P_{XBio} = Biomass sludge wasted/day

Biomass yield = 0.32 gVSS/gBOD

$$P_{XBio}/\text{Tank} = 0.32 \frac{\text{gVSS}}{\text{gBOD}} (300)(205)8.34$$

$$= 1641.3 \text{ lb/d}$$

Oxygen for BOD Removal:

$$= 1.5 \frac{\text{gO}_2}{\text{gBODs}} (300)(2.05)8.34 - 1.42 \frac{\text{gO}_2}{\text{hr}} (1641.3 \text{ lb/d})$$

$$= 5363 \text{ lbO}_2/\text{day}$$

$$\text{Aeration Time} = 163 \text{ min}/263 \text{ min} = 0.57$$

$$= 0.57 (24 \text{ hr/d}) = 13.7 \text{ hrs/day (Use 12 hrs/day)}$$

$$\frac{\text{lbO}_2}{\text{hr}} = \frac{5363}{12 \text{ hrs}} = 446.9 \frac{\text{lbO}_2}{\text{hr}}$$

Nitrification O₂:

$$\text{NO}_3\text{-N produced} = 29.9 \text{ mg/L}$$

$$\text{O}_2 = 4.3 \frac{\text{gO}_2}{\text{gN}} (29.9) (2.05) 8.34 = 2198.2 \text{ lb/d}$$

$$\frac{\text{lb}}{\text{hr}} = \frac{2198.2}{12} = 183.2 \frac{\text{lbO}_2}{\text{hr}}$$

Denitrification O₂ Credit:

$$\text{NO}_3\text{-N reduced} = 29.9 - 5.0 = 24.9 \text{ mg/L}$$

$$\text{O}_2 \text{ credit} = 2.86 (24.9) (2.05) 8.39$$

$$= 1188$$

$$\text{lb/hr} = 1188/12 = 99 \text{ lb/hr}$$

$$\text{Net O}_2 \text{ req'd/Tank} = 446.9 + 183.2 - 99$$

$$= 531.1 \text{ lbO}_2/\text{hr}$$

$$\text{AOR} = 531.1$$

Determine Clean Water Transfer Rate

SOR = standard oxygen transfer rate

$$\alpha = 0.85$$

$$\beta = 1.0$$

$$T = 20^{\circ}\text{C}$$

$$C_{\text{Sat}} = 9.04 \text{ mg/L}$$

$$\text{DO} = 2.0 \text{ mg/L}$$

$$\text{SOR} = \frac{\text{AOR}(C_{\text{Sat}})}{\alpha (C_{\text{Sat}} - \text{DO})}$$

$$= \frac{531.1 (9.04)}{0.85 (9.04 - 2.0)}$$

$$\text{SOR} = 802.3 \text{ lb/hr}$$

Determine air rate @ 25% O₂ transfer efficiency

$$\text{SCFM} = \frac{\text{SOR lb/hr}}{60 \frac{\text{min}}{\text{hr}} (0.25) (0.0172 \text{ lbO}_2/\text{ft}^3)}$$

$$\text{SCFM} = 3110$$

2 Blowers are specified by PERC/tank and provide 1500 SCFM each

Total air per tank = 3000 SCFM

Peak Demand ~ 1.3 (some peak demand will exist)

$$1.3 (3110) = 4043$$

- Need spare blower for aeration during peak demand or can use blower from the other aerobic tank since they are not always operating together.

- System needs to be designed with all blowers integrated.

SURGE TANK

Decant Time = 36 min

Decant Volume = 0.41 Mgal
= 410,000 gal

Decant Rate = 410,000 gal/36 min
= 11,388 gpm

Filtration flow rate @ 3 gpm/ft²

Filter area = 463 ft² per filter
Two in service

Flow rate = 3 (463) (2 filters)
= 2778 gpm

Surge tank
volume needed = (11,388 gpm - 2778 gpm) 36 min
= 309,960 gallons

Volume provided = 286,573 gallons

Close but filters can handle it:

Slightly higher rate: 3.24 gpm/ft² vs. 3.0 (acceptable)

SLUDGE PRODUCTION

Net Yield = 0.80 gTSS/gBOD

Sludge Produced = 0.80 (300 mg/L) (4-1 Mgal/d) 8.34
= 8206 lb/day

ATAD Process

EPA Regs - 10 day detention time
- T = 55°C
- Batch feed after withdrawal before batch feeding

Sludge from SBR

TS = 8206 lb/d
~ 8090 volatile

VS = 6565 lb/day

Flow @
3500 mg/L = 281,000 gpd

TS - VS = 1641 lb/d

Proposed Process:

1. Thickener used to get 4% solids. (polymer addition)
2. Process through ATAD tanks
Each tank: 190,263 gallons
3. ATAD effluent goes to Aerobic Digester: 499,514 gallons
4. Dewatering

1. Thickener
0.35% to 4%
Polymer 6-8 lb/ton
Will need two Thickeners for redundancy

After Thickener:

Flow = 24,000 gpd
TS = 8206 lb/d @ 4%
VS = 6565 lb/d

2. ATAD

Detention time in one ATAD

$$\text{HRT} = \frac{190,263 \text{ gal}}{24,000 \text{ gpd}} = 7.9 \text{ days}$$

Will need to operate two in series to meet 503 Regs for ATAD as PFRP. Requires 10 days detention time

Determine Oxygen Required for ATAD

Assume: 38% VS reduction in one tank

$$\frac{\text{lbO}_2}{\text{day}} = (0.38)(1.42 \frac{\text{lbO}_2}{\text{lbVS}})(6565 \frac{\text{lbVS}}{\text{d}})$$

$$= 3542 \text{ lbO}_2/\text{day}$$

Assume:

- aeration over 22 hours

- need time to withdraw sludge

$$\text{- sludge pumping rate: } \frac{24,000 \text{ gallons}}{(1 \text{ hr}) 60 \text{ min}} = 400 \text{ gpm}$$

$$\frac{\text{lbO}_2}{\text{hour}} = \frac{3542}{22 \text{ hr}} = 160 \frac{\text{lbO}_2}{\text{hr}} \text{ average}$$

Clean Water Transfer Rate Needed (@ 20°C)

$$\text{SOR} = \frac{\text{AOR}(\text{C}_{\text{Sat}} - 20) (1.024^{20 - T})}{\alpha (\text{C}_T - 1.0)}$$

$$T = 55^\circ\text{C}$$

$$\text{C}_T = 5.5 \text{ mg/L}$$

$$\alpha = 0.50$$

$$\text{C}_{\text{Sat}-20} = 9.04 \text{ mg/L}$$

$$\text{SOR} = \frac{(160)(9.04)(1.024^{-35})}{(0.50)(5.5 - 1.0)}$$

$$= 280 \text{ lb/hr}$$

@ 20% efficiency in clean water

$$\text{SCFM} = \frac{280 \text{ lb/hr}}{(6.0)(0.20)(0.0172)} = 1357 \text{ SCFM}$$

Design has provided 2000 SCFM Blowers

More than sufficient

Should assure 50% turndown

Sludge from ATAD:

$$\text{Flow} = 24,000 \text{ gpd}$$

$$\text{VS} = (1-038)(6565) = 4070 \text{ lb.d}$$

$$\text{TS} = 4070 + 1641 = 5711 \text{ lb.d}$$

$$\text{TS Conc.} = 2.85\%$$

3. Aerobic Digester #1

Volume = 499,514 gallons

$$\text{HRT} = \text{SRT} = \frac{499,514}{24,000} = 20.8 \text{ days}$$

Additional Sludge Reduction:

possibly another 10-15%

will provide nitrification/denitrification

NH₄-N Available

From earlier MLSS balance, total nitrogen in waste sludge:

Biomass = 1641.3 lb/d

N = 0.10 (1641.3) = 164 lb/d

Assume 80% release

NH₄-N = 131 lb/d

NH₄-N Conc. of ATAD effl. = 650 mg/L

O₂ Required

$$= 4.3 (131 \text{ lb/d}) + 1.42 (0.15) 4070$$

$$= 1430 \text{ lb.d}$$

$$= 59.6 \text{ lb.hr}$$

SCFM ~ 500 SCFM

4. Final sludge for dewatering

Flow = 24,00 gpd

VS = 0.85 (4070) = 3460 lb/d

TS = 3460 + 1640 = 5100 lb.d

TS conc. = 2.5%

Centrifuge @ 7 hr/day operation

$$\frac{24,000 \text{ gal}}{(7\text{hr}) 60} = 57 \text{ gpm}$$

90 gpm centrifuge ok

Polymer dose could be high as 30-60 lb/ton

Appendix C
Tertiary Filter/ Lo-Pro Odor Scrubber/
Laboratory Equipment

C-1
Tertiary Filtration System



AQUA-AEROBIC SYSTEMS, INC.
"Your Wastewater Specialists"

6306 N. Alpine Rd.
P.O. Box 2026
Rockford, IL U.S.A. 61130-0026
TEL. 815/654-2501
FAX 815/654-2506

AquaDisk Filter Testing

Plant Name:	Fountain Hills Sanitary District
Location:	16941 East Pepperwood Circle Fountain Hills, Arizona
Products . . .	
Aqua-Jet [®] Aerator	Plant Superintendent: Mr. Ron Huber, P.E.
AquaDOM [®] Mixer	Type of Plant: Activated Sludge
AquaPBF Filter	Major Plant Equipment: Mechanical Bar Screen Aerated Grit Chamber Aeration Basin (Diffused Air) Final Clarification Aerobic Digesters ABF Sand Filters Chlorine Contact Chamber
AquaDisk Cloth-media filter	
FlexiSBR Sequencing batch or	
CA-M-D Aerator/mixer/ decanter	
Aspi-Jet Aspirating aerator	
Log-nitter Lagoon nitrification system	
ThermoFlo Spray cooler	

HISTORY:

Fountain Hills Sanitary District treats primarily domestic wastewater. For tertiary treatment, they operate traveling bridge, gravity sand filters. Effluent TSS concentrations from the sand filters typically range from 2-4 ppm under average conditions and as high as 10-12 PPM during upset conditions.

OBJECTIVE:

To compare TSS removal efficiency of the AquaDisk filter with TSS removal efficiencies of a traveling bridge sand filter.

SCOPE AND CONCLUSIONS:

The AquaDisk Filter was tested side by side with the sand filters for a period of three months to compare TSS removal efficiencies. The AquaDisk filter was fed with the same influent wastestream as the sand filters. During the course of the test period, the influent hydraulic load to the AquaDisk filter was adjusted from 1.5 gpm/sq. ft. to 6.0 gpm/sq. ft. to determine what effect this hydraulic fluctuation would have on effluent quality. These hydraulic loading adjustments were achieved with an influent pump and flow control valve.

The flow to the sand filters could not be varied and averaged approximately 0.84 gpm/ft².

Over the entire range of influent loadings, the AquaDisk filter produced effluent TSS concentrations equal to or below the 2-4 ppm being produced by the existing sand filters.

Products . . .

Aqua-Jet[®]
Aerator

AquaDOM[®]
Mixer

AquaPBF
Filter

AquaDisk
Cloth-media filter

FlexiSBR
Sequencing batch
or

CA-M-D
Aerator/mixer/
decanter

Aspi-Jet
Aspirating aerator

Log-nitter
Lagoon nitrification
system

ThermoFlo
Spray cooler

Services . . .

Process and Mechanical
Engineering

Quality
Manufacturing

Customer Service

International Expertise

AquaDisk Filter Testing Fountain Hills Sanitary District

-2-

The following are test results obtained at Fountain Hills Sanitary District between April 23, 1992, and June 30, 1992.

AquaDisk data was obtained through grab samples gathered 3 times per day while the comparative sand filter data was obtained through once per day grab samples. .

It should also be pointed out that at first glance the TSS removal efficiencies appear to be low, however, it should be noted that typically when TSS concentrations entering the filter are this low, the sizes of the remaining solids are very small and difficult to remove.

PHASE I This testing was conducted at 1.5 gpm/sq. ft.. This flow rate was maintained for 264 hours.

During this time, the backwash pump operated 1.7 hours.
1.7 hours at 110 gpm = 11,220 gallons

Backwash water as a percent of thru-put.
11,220 gallons / 1,278,288 gallons = 0.877%

Average Influent TSS = 5.88 mg/l
Average Effluent TSS = 2.12 mg/l
Average TSS Removal Efficiency = 63.92%
Average TSS Loading = 0.11 lbs/sq. ft./day

Average Sand Filter TSS Removal = 49.26%

PHASE II This testing was conducted at 2.5 gpm/sq. ft.. This flow rate was maintained for 481.5 hours.

During this time, the backwash pump operated 7.2 hours.

Backwash water as a percent of thru-put.
47,520 gallons / 3,885,705 gallons = 1.22%

Average Influent TSS = 10.04 mg/l
Average Effluent TSS = 2.38 mg/l
Average TSS Removal Efficiency = 76.3%
Average TSS Loading = 0.3 lbs/sq. ft./day

Average Sand Filter TSS Removal = 58.89%

AquaDisk Filter Testing Fountain Hills Sanitary District

-3-

Note that the backwash water percentage appears high for test #1 and #2 in comparison to the remainder of the tests. It must be pointed out that the backwash function for these two test periods was initiated on a timed basis rather than due to head differential.

PHASE III This testing was conducted at 3.5 gpm/sq. ft.. This flow rate was maintained for 309.3 hours.

During this time, the backwash pump operated 4.1 hours.

Backwash water as a percent of thru-put.
 $27,060 \text{ gallons} / 3,494,471 \text{ gallons} = 0.77\%$

Average Influent TSS = 8.46 mg/l
Average Effluent TSS = 2.67 mg/l
Average TSS Removal Efficiency = 66.06 mg/l
Average TSS Loading = 0.36 lbs/sq. ft./day

Average Sand Filter TSS Removal = 67.54%

PHASE IV This testing was conducted at 5.0 gpm/sq. ft.. This flow rate was maintained for 213.8 hours.

During this time, the backwash pump operated 4.4 hours.

Backwash water as a percent of thru-put.
 $29,040 \text{ gallons} / 3,450,732 \text{ gallons} = 0.84\%$

Average Influent TSS = 7.9 mg/l
Average Effluent TSS = 3.0 mg/l
Average TSS Removal Efficiency = 62.04%
Average TSS Loading = 0.47 lbs/sq. ft./day

Average Sand Filter TSS Removal = 51.79%

AquaDisk Filter Testing Fountain Hills Sanitary District

-4-

PHASE V

This testing was conducted at 6.0 gpm/sq. ft.. This flow rate was maintained for 335.6 hours.

During this time, the backwash pump operated 20.9 hours.

Backwash water as a percent of thru-put.
137,940 gallons / 6,449,900 gallons = 2.12%

Average Influent TSS = 10.09 mg/l
Average Effluent TSS = 4.14 mg/l
Average TSS Removal Efficiency = 58.96%
Average TSS Loading = 0.73 lbs/sq. ft./day

Average Sand Filter TSS Removal = 50%

SAND FILTER

Over the entire 67 day test period, the sand filter processed approximately 32,913,750 gallons of wastewater.

During this time, the backwash pump operated a total of 78.7 hours.
The backwash rate was 17gpm/sq. ft. x (9' x 1') = 153 gpm
78.7 hours at 153 gpm = 722,466 gallons

Backwash water as a percentage of thru-put.
722,466 gallons / 32,913,750 = 2.19%

Average Influent TSS = 8.03 mg/l
Average Effluent TSS = 3.57 mg/l
Average TSS Removal Efficiency = 55.51%
Average TSS Loading = 0.0812 lbs/sq. ft./day



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TEL. 815/654-2501
FAX 815/654-2508

AquaDisk Filter Testing

Plant Name: Northern Gila County Sanitary District

Location: 2200 West Doll Baby Ranch Road
Payson, Arizona

Plant General Manager: Mr. Joel S. Goode

Products . . .

Aqua-Jet[®]
Aerator

AquaDOM[®]
Mixer

AquaABF
Filter

AquaDisk
Cloth-media filter

AquaSBR
Sequencing batch
"or"

JCAM-D
Aerator/mixer/
decantor

Aspi-Jet
Aspirating aerator

Lag-nite[™]
Lagoon nitrification
system

ThermoFlo
Spray cooler

Type of Plant: Activated Sludge (Bardenpho Process)

Major Plant Equipment: Bar Screen
Comminutor
Grit Chamber
Treatment Basins (Multistage Aerobic/Anoxic)
Clarifier
Sludge Thickener and Press
Sand Filter
Ultraviolet Disinfection

HISTORY:

The City of Payson treats primarily domestic wastewater. For tertiary treatment they operate a traveling bridge, gravity sand filter. Final effluent is used for land irrigation and therefore must have turbidity levels less than 2.0 NTU. With the potential of new recreational parks and a lake, the City of Payson saw a potential need for additional filtration capacity. In an effort to investigate new filtration technology, they agreed to test the AquaDisk filter side by side with their existing filter to compare effluent NTU quality. Their goal is to eventually discharge 100% of their effluent into the new park system and lake.

OBJECTIVE:

Services . . . To compare effluent TSS/NTU quality obtained from the AquaDisk filter with TSS/NTU results from the traveling bridge sand filter.

Process and Mechanical
Engineering

Quality
Manufacturing

Customer Service

International Expertise

SCOPE AND CONCLUSIONS:

The AquaDisk Filter was tested side by side with the sand filters for a period of three months to compare TSS removal efficiencies. The AquaDisk filter was fed with the same influent wastestream as the sand filters. During the course of the test period, the AquaDisk was tested at 2.5 gpm/sq. ft. and 1.04 gpm/sq. ft. to determine what effect this hydraulic fluctuation would have on effluent quality. These hydraulic loading adjustments were achieved with an influent pump and flow control valve.

AquaDisk Filter Testing Northern Gila County Sanitary District

-2-

The flow to the sand filters could not be varied and averaged approximately 1.18 gpm/ft².

At both influent flowrates, the AquaDisk filter produced effluent TSS concentrations equal to or below the TSS concentrations being produced by the existing sand filter.

The following test results were obtained at Northern Gila County Sanitary District between August 14, 1992, and September 14, 1992.

AquaDisk data was obtained through 24 hour composite samples while the comparative sand filter data was obtained through grab samples.

PHASE I This testing was conducted at 2.5 gpm/sq. ft. This flow rate was maintained for 515 hours.

During this time, the backwash pump operated 6.5 hours.

Backwash water as a percent of thru-put.
42,900 gallons / 4156,857 gallons = 1.03%

Average Influent TSS = 4.79 mg/l
Average Effluent TSS = 1.35 mg/l
Average TSS Removal Efficiency = 71.15%
Average TSS loading = 0.14 lbs/sq. ft./day
Average Effluent NTU = 1.14 NTU

Average Sand Filter TSS Removal = 60.8%

PHASE II This test was conducted at 1.03 gpm/sq. ft. This flow rate was maintained for 215.4 hours.

During this time, the backwash pump operated .7 hours.

Backwash water as a percent of thru-put.
4620 gallons / 710,820 gallons = 0.649%

Average Influent TSS = 3.16 mg/l
Average Effluent TSS = 1.12 mg/l
Average TSS Removal Efficiency = 58.73%
Average TSS Loading = 0.04 lbs/sq. ft./day

Average Sand Filter TSS Removal = 32%



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Rockford, IL U.S.A. 61130-0026
TEL. 815/654-2501
FAX 815/654-2508

AquaDisk Filter Testing

Plant Name: North Titusville, WWTP

Location: Titusville, Florida

Plant Superintendent: Randy Musgrove

Products . . .

Type of Plant: A/O Activated Sludge

Major Plant Equipment:

Mechanical Bar Screen
Anoxic Basins
Activated Sludge Basins
Final Clarifiers
Anaerobic Digesters
Sand Filters
Chlorine Contact Chamber

Aqua-Jet[®]
Aerator

AquaSBR[®]
Mixer

AquaASF
Filter

AquaDisk
Cloth-media filter

AquaSBR
Sequencing batch
or

CAM-D
Aerator/mixer/
decanter

Aqua-Jet
Aspirating aerator

Lagoon-nitter
Lagoon nitrification
system

ThermoFlo
Spray cooler

HISTORY:

The North Titusville WWTP treats primarily domestic wastewater. For tertiary treatment they operate traveling bridge, gravity sand filters. At the time of the pilot test, the treatment facility was approaching design capacity and would therefore need additional filters for future expansion. The consulting engineer in charge of the expansion design was interested in testing the AquaDisk filter side-by-side with the existing filters to compare TSS removal efficiencies. Although the existing filters were performing adequately, the engineer had an interest in investigating the AquaDisk because there was on-site space limitations for the expansion. The AquaDisk filter, sized to handle the additional flow, offered approximately 70% savings in footprint area compared to what would be required for a granular-media filter similar to their existing units.

OBJECTIVE:

To compare TSS and NTU reduction efficiency of the AquaDisk filter with TSS and NTU removal efficiencies of a traveling bridge filter. Effluent levels must be less than 5 mg/l TSS and 2.0 NTU to meet permit requirements.

Services . . .

Process and Mechanical
Engineering

Quality
Manufacturing

Customer Service

International Expertise

SCOPE AND CONCLUSIONS:

The AquaDisk Filter was tested side by side with the sand filters for a period of two months to compare TSS and NTU removal efficiencies. The AquaDisk filter was fed with the same influent wastestream as the sand filters. During the course of the test period, the AquaDisk was loaded at 3.0 gpm/sq. ft.. Flow to the sand filters averaged approximately 1.5 to 1.8 gpm/ft².

North Titusville Wastewater Treatment Facility Titusville, Florida

-2-

Over the course of the entire test period, the AquaDisk filter produced effluent TSS concentrations equal to or below the TSS concentrations being produced by the existing sand filter.

The following are averages of the test results obtained at Titusville between June 30, 1994 and August 31, 1994. Complete test data is displayed on the following chart and illustrated on the graphs.

AquaDisk and Sand Filter data was obtained through grab samples.

PHASE I This testing was conducted at 3.0 gpm/sq. ft. This flow rate was maintained for approximately 1488 hours.

During this time, the backwash pump operated 27.1 hours and the sludge pump operated 5.2 hours.
 $(27.1 + 5.2)\text{hrs} \times 70 \text{ gpm} \times 60 \text{ min/hr} = 135,660 \text{ gallons}$

Backwash/sludge water as a percent of thru-put.

$0.136 \text{ MG} / 14.41 \text{ MG} = 0.94\%$

Average Influent TSS = 7.8 mg/l

Average Effluent TSS = 1.0 mg/l

Average TSS Removal Efficiency = 86.1%

Average TSS Loading = 0.28 lbs/sq. ft/day

Backwash water usage = 0.94 % of thru-put

SAND FILTER

Average Influent TSS = 7.8 mg/l

Average Effluent TSS = 2.1 mg/l

Average TSS Removal Efficiency = 70.1%

Average TSS Loading = 0.16

Backwash water usage = 2.0 % of thru-put

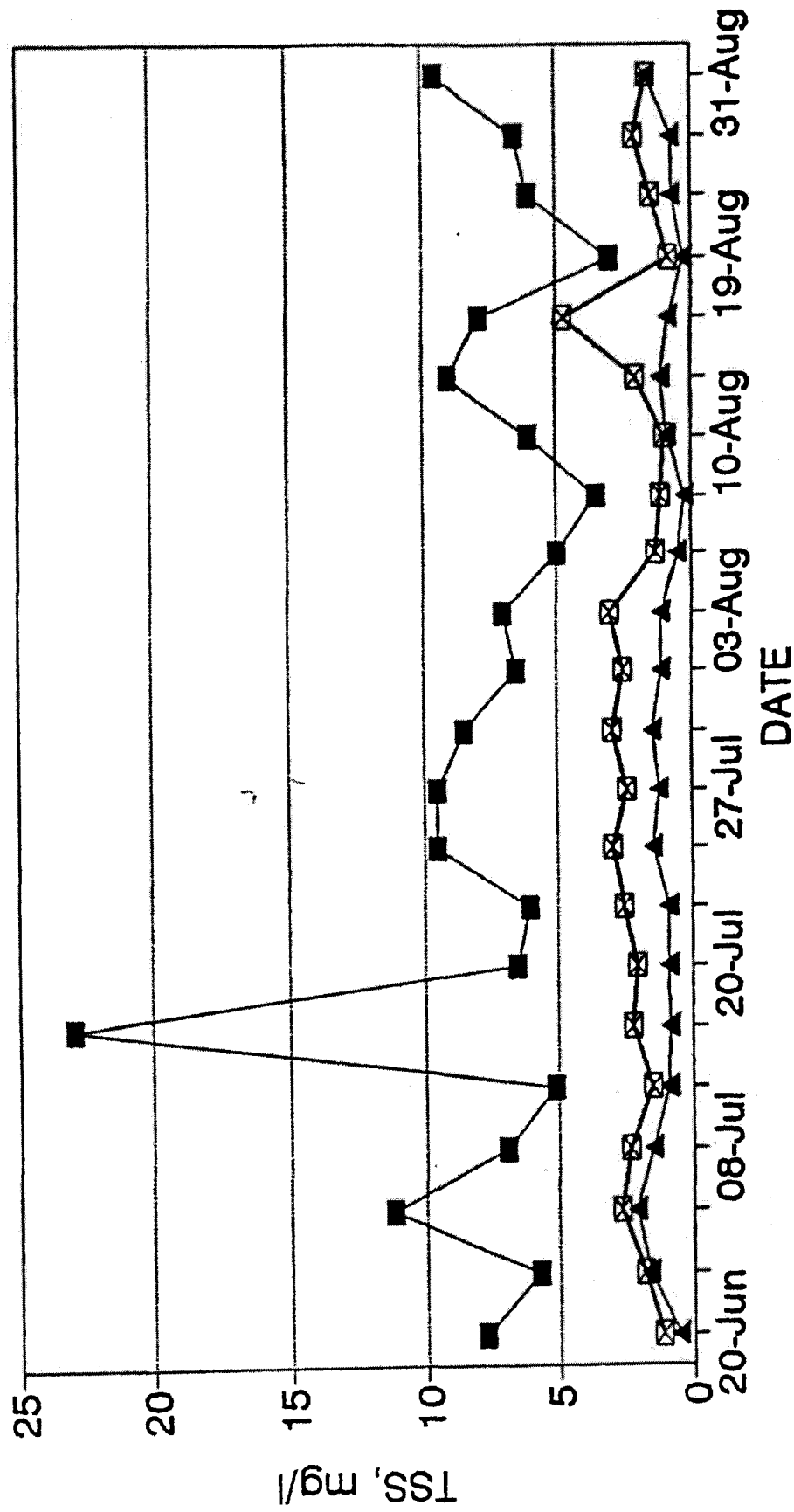
NORTH TITUSVILLE WWTP, FLORIDA
AQUA DISK PILOT STUDY

	ADF TSS			SAND FILTER TSS			ADF TURBIDITY			SAND FILTER TBOY		
	INF MG/L	EFF MG/L	% REMOVED	INF MG/L	EFF MG/L	% REMOVED	INF	EFF	% REMOVED	INF	EFF	% REMOVED
6/20/84	7.7	0.5	94	7.7	1.1	86	1.40	0.50	64	1.40	0.81	35
6/30/84	5.7	1.6	72	5.7	1.6	68	2.30	1.75	24	2.30	1.70	28
7/8/84	11.2	2.1	81	11.2	2.6	77	4.80	1.80	60	4.80	2.10	38
7/8/84	6.9	1.5	78	6.9	2.3	67	2.70	1.37	49	2.70	1.61	40
7/11/84	5.1	0.9	82	5.1	1.5	71	2.40	0.70	71	2.40	1.15	52
7/15/84	23.0	0.8	97	23.0	2.2	90	7.80	0.62	92	7.80	0.94	69
7/20/84	6.5	0.9	86	6.5	2.0	69	2.10	0.70	67	2.10	0.93	55
7/22/84	6.0	0.9	85	6.0	2.5	58	2.00	0.91	55	2.00	1.08	48
7/25/84	8.5	1.4	83	8.5	2.9	66	3.30	1.09	67	3.30	1.70	48
7/27/84	9.5	1.2	87	9.5	2.4	75	3.30	1.18	64	3.30	1.40	58
7/28/84	8.5	1.4	84	8.5	2.9	66	4.90	1.10	78	4.90	1.80	67
8/1/84	6.5	1.1	83	6.5	2.5	62	1.90	0.90	53	1.90	1.26	34
8/3/84	7.0	1.1	84	7.0	3.0	57	3.50	0.95	73	3.50	1.80	54
8/5/84	5.0	0.5	90	5.0	1.3	74	2.80	0.70	75	2.80	1.00	64
8/6/84	3.5	0.2	94	3.5	1.1	68	2.00	0.35	83	2.00	1.12	44
8/10/84	6.0	0.9	85	6.0	1.0	83	1.40	0.60	57	1.40	0.80	36
8/15/84	9.0	1.1	88	9.0	2.0	78	1.70	0.50	71	1.70	0.80	65
8/17/84	7.8	0.8	90	7.8	4.7	40	1.60	0.40	75	1.60	0.70	58
8/18/84	3.0	0.3	90	3.0	0.8	73	1.60	0.50	69	1.60	0.70	58
8/22/84	6.0	0.7	88	6.0	1.5	75	1.81	0.80	56	1.81	0.83	54
8/24/84	6.5	0.7	89	6.5	2.1	68	2.10	0.80	62	2.10	1.40	33
8/31/84	9.5	1.6	83	9.5	1.6	83	4.40	1.10	75	4.40	1.10	75
AVERAGE	7.8	1.0	86.1	7.8	2.1	70.1	2.6	0.8	65.5	2.8	1.2	51.7

NOTE: AquaDisk loading is 3.0 gpm/sq. ft.
Sand Filter loading is < 2.0 gpm/sq. ft.

AQUA DISK FILTER PILOT STUDY

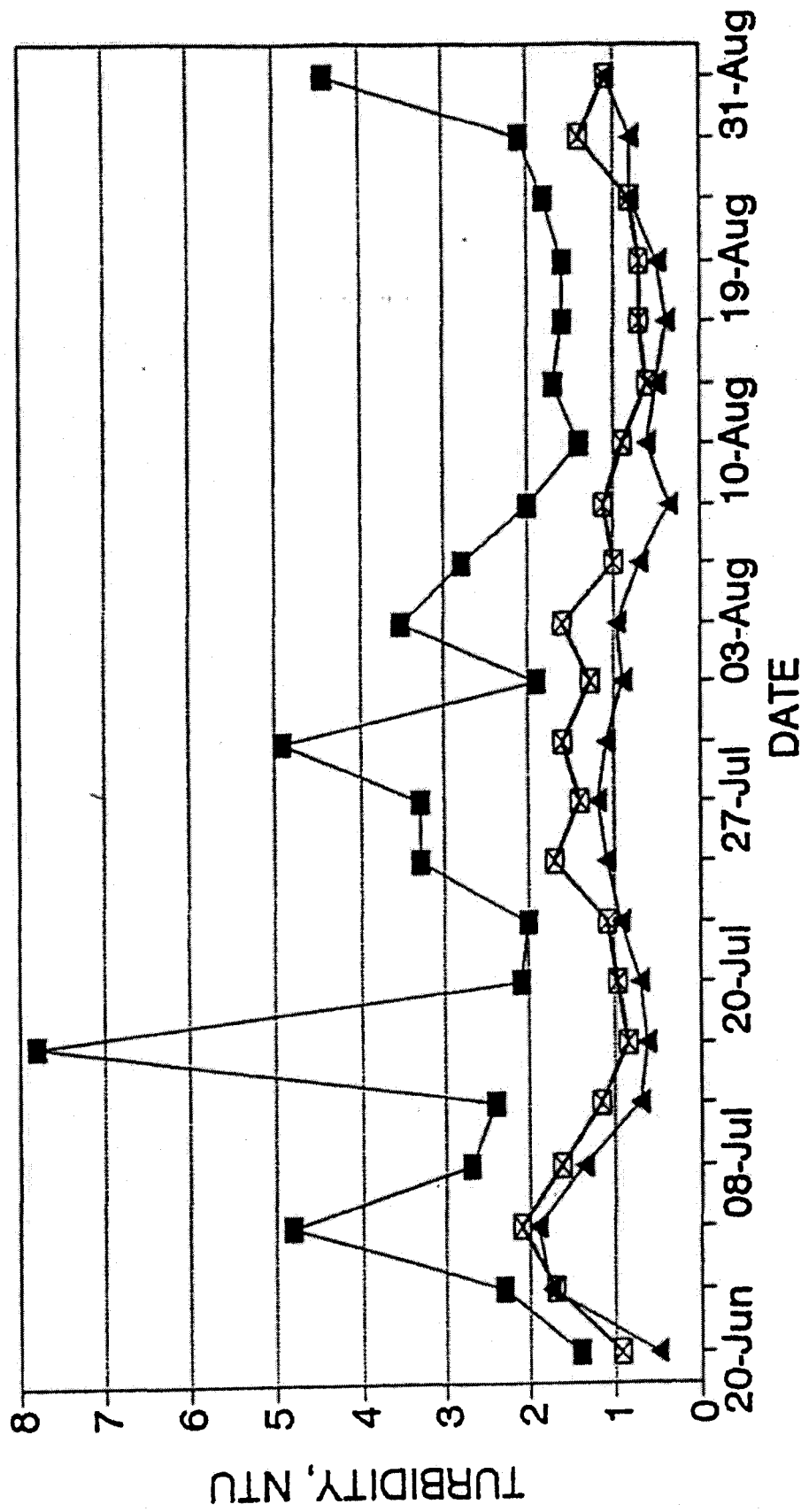
NORTH TITUSVILLE WWTP



—■— INFLUENT —▲— AQUA DISK EFF. —☒— SAND FILTER EFF.

AQUA DISK FILTER PILOT STUDY

NORTH TITUSVILLE WWTP



—■— INFLUENT —▲— AQUA DISK EFF. —x— SAND FILTER EFF.

1. ALL FERRIC-IRON STEEL SHALL BE A36 COMMERCIAL STEEL, WITH A TENSILE STRENGTH OF 58,000 PSI.

1. CLARKSON; WOMAN WENT BLIND; CLARKSON; WENT BLIND
2. CLARKSON WENT BLIND; CLARKSON WENT BLIND; CLARKSON WENT BLIND

1. CLASSROOM: CONCEPTUAL SKILLS CLASSES. (CSC-80A)
2. READER: WORKSHEET IN 30 MIN TO CHART OF

- "The Great American Novel" - 1954
 - "The Great American Novel" - 1954
 - "The Great American Novel" - 1954

WALT DISNEY AND ASSOCIATED CO., INC.
THE WALT DISNEY COMPANY, PAPER PRODUCTS

1-10-61 10:00 AM

48" minimum CEV size
to ensure full development

THE UNIVERSITY OF CHICAGO

HIGH PRESSURE MANTLE DOME

ONE INSTANT

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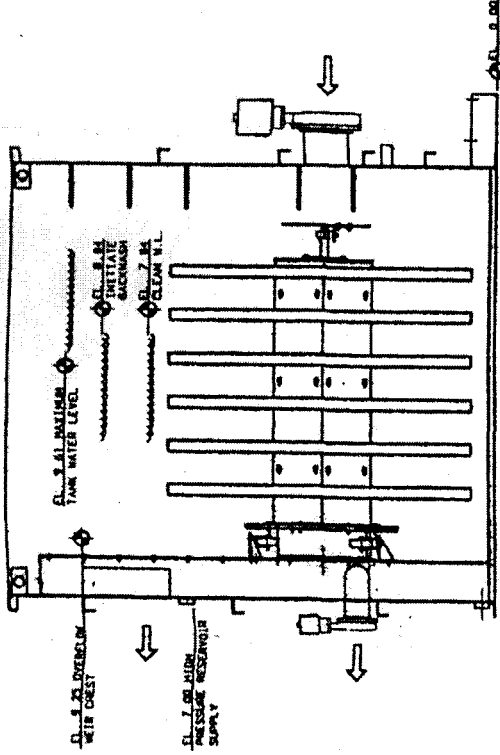
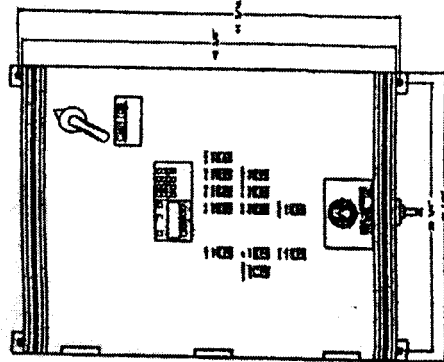
STANDARD NEW PLANT

STANDARD 1000 FLAME,
STANDARD 90 WATER, (1) 4" LAMINATE MECHANICALLY JOINTED AUTOMATICALLY VALVE.

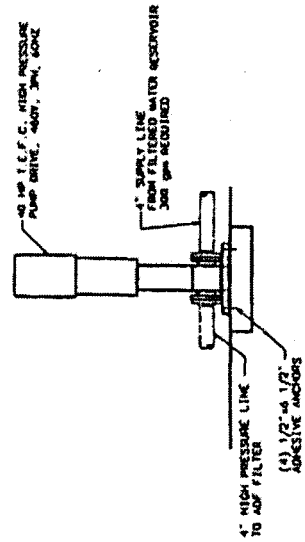
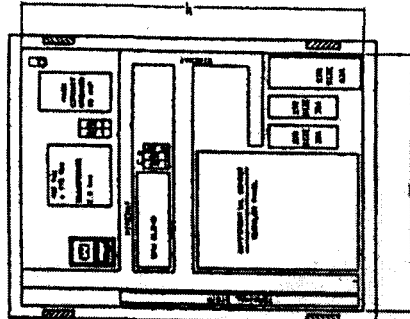
BACKBONE & BLANK: (1) 2 1/2" MINUSALLY SPECIFIED GATE NO. 12.
 DESIGN PATENTING NUMBER: (2) 2 FEMALE NOT BALL VALVES.

100% MALE: 3 FEMALE NOT COUNTING.
100% FEMALE: 13 FEMALE NOT COUNTING.

[illegible]



HYDRAULIC PROFILE
(OPERATING LEVELS @ 900 GPM)



HIGH PRESSURE PUMP (SUPPLIED LOOSE)
(NOTE: PUMP CHARGER MUST BE KEPT PRIME)

DISK FILE NUMBER: 201297

DISK FILE NUMBER	201297
DATE	1/25/72
TIME	10:00
BY	ADP
FOR	ADP
PROJECT	ADP
REVISION	1
DATE	1/25/72
TIME	10:00
BY	ADP
FOR	ADP
PROJECT	ADP
REVISION	1
DATE	1/25/72
TIME	10:00
BY	ADP
FOR	ADP
PROJECT	ADP
REVISION	1

HEILSAS CYLINDRICAL PNEUMATIC SYSTEM

The Apudish Package Filter houses complete with an integrated pneumatic control system.

- The compressor and reservoir are mounted on a steel base designed into the tank's main structure to locate the compressor out of the way, but in a easily accessible location. The air compressor comes with an air filter mounted to the compressor's body and the entire compressor is covered by a weather hood. Another filter/dryer is installed directly after the air reservoir to insure clean / dry air is delivered to the control valves.

The compressor and reservoir are mounted on a steel base designed into the tank convenient to locate the compressor out of the way, but is a easily serviced location. The air compressor covers with an air filter mounted to the compressor body and the entire compressor is covered by a weather hood. A weather filler / dryer is installed directly after the air reservoir to insure clean / dry air is delivered to the control valves.

The air compressor draws air from the atmosphere through an air filter mounted to the compressor body and the entire compressor is covered by a weather hood. A weather filter / dryer is installed directly after the air reservoir to insure clean / dry air is delivered to the control valves.

The colloid-sperated pneumatic control valves are located in the MCM or the pneumatic control panel. These valves are integrated into the liquid level measuring system (the submer pump) so that all pneumatic components are centrally located, installable in the air line directly ahead of the "flow control" valve. The pneumatic oiler used to provide a light mist of oil for the lubrication of the moving parts of the pneumatic components (oil does not contact the process liquid at any location).

- The semisolid spermatid pneumatic control valves are located in the SEMA of the nearest control panel. These valves are integrated into the lipid level monitoring system (the bubble gauge) so that all pneumatic components are conveniently located. Installed in the air line directly ahead of the "bubble" is a pneumatic filter used to provide a light mist of oil for the lubrication of the working parts of the pneumatic components (oil does not contact the process liquid of any location).

If switches and timing functions are integrated into the pneumatic control system to insure proper automatic and manual operation.

Each remote line operator is mounted to the valve on the filter tank and the pneumatic line is run to the actuator via a non-corrosive conduit rigidly attached to the filter tank.

- the lowest level sensor lines are also run through non-recursive conduit to the discharge point where special length takes extend below the water levels. Each pressure valve is designed to fail in a predetermined position in the event of the loss of power so the filter will remain operational during a power outage.

[illegible]

equipped with a check valve, unloading valve, pressure switch for water creation, high pressure safety valve, and a crisscross compressor with some

as a means of ensuring quality control, and a pressure regulator with gauge.

[illegible]

Aqua-Aerobic Systems, Inc.

AquaDisk Filter Reference List

Alto Dairy

Waupun, WI

Equipment: (1) 4 Disk Package Filter/Painted Tank

Installation: 1996

Contact: Thomas Ebert (414)346-2215

Comments: Activated sludge plant/TSS reduction

Cone Mills Textile

Cliffside, NC

Equipment: (3) 6 Disk Package Filters/304 SS Tanks

Installation: 1995

Contact: Jeff Wells, Environmental Eng. (704) 657-5375 (Ext. 105)
Arthur Toompas, Corporate Office Director of Water and Air Resources
Phone (910)379-6226.

Comments: Activated sludge plant/Filtration following chemical addition for color removal.

Fountain Hills Arizona Sanitary District

Fountain Hills, AZ

Equipment: Operated a full scale 1 Disk Filter side by side with a Traveling Bridge Sand Filter.

Contact: Ron Huber (602) 837-9444

Ferndale (City of

Ferndale, WA

Equipment: (2) 12 Disk Concrete Filters

Contact: Jerry Luenberger, Chief Plant Operator (360) 384-4607

Garden Grove Utilities

Winter Haven, FL

Equipment: (2) 4 Disk Concrete Filters with 2 Disks installed in each. This enables them to double their capacity with very little cost and no increase in footprint. Installed partially above ground due to high water table.

Installation: 1995

Contact: Don Hutzinger, Supervisor of Operations (941)324-2969
Jeff Martell, Maintenance Supervisor

Comments: Activated sludge/TSS and NTU reduction for reuse

Hume Lake Christian Camps***Hume Lake, CA***

Equipment: (1) 2 Disk Package Filter with only 1 disk installed, enabling future expandability with little cost and no increase in tankage.
 Installation: 1993
 Contact: Chris Hendricks, Utilities Supervisor (209) 335-2881
 Comments: AquaSBR/Activated sludge/TSS and NTU reduction

Inlet Beach WWTP***Ponte Vedra, FL***

Equipment: (1) 2 Disk Package Filter/Painted Tank
 Installation: 1997
 Contact: Glenn Holeves, St. Johns Utility Service (904) 285-6112
 Comments: Activated sludge/TSS and NTU reduction

Intercoastal Utilities***Jacksonville, FL***

Equipment: (1) 4 Disk Filter with only 2 disks installed, enabling for future expandability with little cost and no increase in tankage.
 Installation: 1995
 Contact: Hal Smith, Operator (904)399-8802
 Comments: Activated sludge/Operating filter in excess of 3 gpm/ft²/TSS and NTU reduction

Laurel Springs***Laurel Springs, GA***

Equipment: (2) 4 Disk Package Filters/Painted Tank
 Installation: 1996
 Contact: David Rainoff (770)888-9702
 Comments: AquaSBR/Activated sludge/TSS and NTU reduction.

Lynn Haven***Lynn Haven, FL***

Equipment: (1) 6 Disk Package Filter/Painted Tank
 Installation: 1995
 Contact: Mark Branstetter (904)265-2121
 Comments: Activated sludge/TSS reduction

Marsh Landing***Ponte Vedra Beach, FL***

Equipment: (1) 4 Disk Package Filter/Painted Tank
 Installation: 1995
 Contact: Glenn Holeves/St. Johns Utility Service Co. (904)285-6112
 Comments: Activated sludge/TSS and NTU reduction for reuse on golf course

N. Brookfield WWTP***N. Brookfield, MA***

Equipment: (1) 4 Disk Concrete Filter
 Installation: 1997
 Contact: Rodney Jenkins, Operator (508)867-0211
 Comments: Activated sludge/TSS and NTU reduction

Pilgrims Pride Industries***Mt. Pleasant, TX***

Equipment: Operated a full scale 1 Disk Filter side by side with a traveling bridge sand filter.
 Contact: Tim Weir (903) 572-7911

Piper Impact***New Albany, MS***

Equipment: (1) 4 Disk Filter/Painted Tank
 Installation: 1997
 Contact: Ken Bartle (601)543-5046
 Comments: Industrial/Filtration after chemical addition/TSS reduction.

Palm Beach County WWTP***Boynton Beach, FL***

Equipment: Operated a full scale 2 Disk filter side by side with existing upflow moving bed sand filters, and a Israel plastic filter.
 Contact: David Dalton, Superintendent (561)499-0163
 Comments: All filters during the study were monitored for NTU continuously to see which would best perform in NTU reduction. Facility chose (6) 12 Disk Filters to be installed in April 1998. Effluent for reuse.

Players Club***Jacksonville, FL***

Equipment: (1) 4 Disk Package Filter/Painted Tank
Installation: 1996
Contact: Glenn Holeves, St. Johns Utility Service (904)285-6112
Comments: Activated sludge/TSS and NTU reduction for reuse on golf course.

Smithburg WWTP***Smithburg, MD***

Equipment: (2) 2 Disk Package Filters/Painted Tank
Installation: 1995
Contact: Rick Stevens, Plant Operator (301)82403249
Comments: AquaSBR/Activated sludge/TSS and NTU reduction

Washington Correctional Center***Shelton, WA***

Equipment: (1) 4 Disk Package Filter/Painted Tank
Installation: 1997
Contact: Tom Fischer (360)426-4433
Comments: Activated sludge/TSS reduction

Wisconsin Whey***Monroe, WI***

Equipment: (1) 2 Disk Package Filter/Painted Tank
Installation: 1996
Contact: Dona Reeve, Operator (608)934-1400 Ext. 215
Comments: Activated sludge/TSS reduction/Replaced an existing upflow moving bed sand filter with the AquaDisk filter

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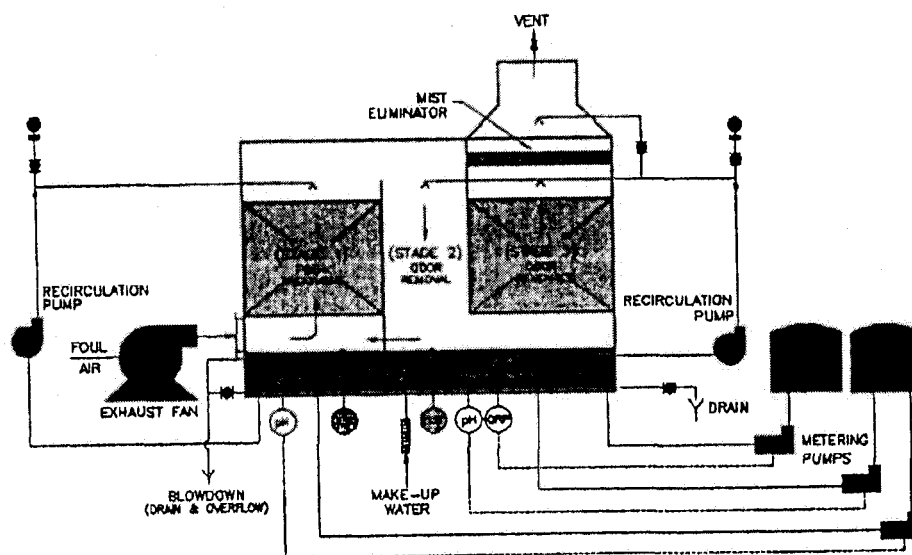
C-2
Lo-Pro Odor Scrubber System

A. DESIGN SPECIFICATIONS AND PERFORMANCE REQUIREMENTS

Design Air Flow Rate, scfm	3,000	6,000	10,000
Average Inlet H ₂ S Concentration, ppm	25	25	25
Peak Inlet H ₂ S Concentration, ppm	50	50	50
Minimum Removal Efficiency, %	99.5	99.5	99.5

B. PROCESS DESCRIPTION

Hydrogen sulfide laden air passes through ductwork to the LO/PRO® odor control scrubber. The system utilizes Sodium Hydroxide (NaOH) and Sodium Hypochlorite (NaOCl) to react with and remove the odorous compounds present in the airstream. The chemistry of the system is as follows: under alkaline conditions and with the presence of excess NaOCl, H₂S is oxidized to form sulfuric acid. This sulfuric acid is then neutralized by NaOH to form the byproduct sodium sulfate.



In order to compensate for the consumption of NaOH and NaOCl in the system the pH and Oxidation Reduction Potential (ORP) are continuously monitored by pH and ORP controllers. The pH and ORP levels are maintained at the proper setpoints via the injection of NaOH and NaOCl, respectively, by metering pumps into the system. In turn, the pH and ORP controllers continuously alter the injection rate of NaOH and NaOCl, via the metering pumps, to maintain the system pH and ORP at the optimum settings.

USFilter's LO/PRO® odor control system is a "once-through", three-stage absorption system consisting of a gas conditioning/pre-treatment stage followed by two vertical co-current/counter-current gas absorption sections. The exhaust fan pulls the odorous air from the H₂S producing areas and pushes the air through the LO/PRO odor control

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system. The foul air first enters a pre-conditioning stage (Stage 1) where it is contacted with liquid from the Stage 1 sump in a counter-current arrangement. The Stage 1 sump consists of a solution consisting of the blowdown from Stages 2/3 and a controlled amount of fresh Sodium Hydroxide (NaOH) used to maintain the set pH.

In the first stage, approximately 70 to 80% of the inlet H_2S is removed. This configuration minimizes chemical costs by significantly reducing the amount of Hydrogen Sulfide that reacts with Sodium Hypochlorite. Please see the tables at the end of this section for estimated utility requirements.

In the co-current second stage and counter-current third stage, the air is contacted with a water solution supplemented with a controlled amount of injected NaOH and NaOCl. These final two stages assure the remaining odorous compounds are oxidized. Finally the "scrubbed" air is discharged from the system through a mist eliminator and into the atmosphere.

A polypropylene packing media is provided to allow the necessary chemical reaction of H_2S with NaOCl and NaOH to occur in the system. The packing is designed to allow the maximum amount of surface area while minimizing the amount of pressure drop. This configuration is critical to maximize the amount of liquid to gas contact in the system, thereby maximizing the removal efficiency of the system and minimizing chemical consumption.

The chemical reaction in the system does create the byproduct sodium sulfate, as well as sodium chloride and minute amounts of water. In order to optimize the performance and minimize the maintenance of the system, the salt byproducts must be removed from the process. To accomplish this fresh water is continuously injected into Stages 2/3 sump and controlled via a flowmeter and gate valve. An internal overflow transfers the water to the Stage 1 sump where the trace amounts of chemical left in solution along with injected NaOH and NaOCl are reacted with the H_2S in the airstream. Finally the salt byproducts, dissolved in the sump liquid, are overflowed out of the system at the same rate at which the fresh water is injected into it. There is an overflow above the liquid level that assures the chemical sump can never be overfilled. A low level alarm, set at below the designed sump level provides system warning. A pressure differential gauge is provided to insure that the packing does not retain an extraordinary amount of the byproducts or "plug".

The chemical sumps and absorption stages are housed in a single FRP chamber with access ports for easy and quick access to any part of the system. The spray nozzles in each section are easily removable.

This arrangement of gas absorption provides (1) COMPLETE and GUARANTEED odor removal with efficiencies in excess of 99%, and (2) MAXIMUM chemical utilization prior to discharge from the system.

C. MAJOR SYSTEM COMPONENTS FURNISHED BY USFILTER

Each scrubber system consists of following major system components:

1. FRP Air Supply Fan
2. FRP Vessel Inlet Transition Piece
3. FRP Three Stage Scrubber System
4. Exhaust Stack
5. Chemical Recirculation Pumps (vertical seal-less pumps)
6. NaOH and NaOCl Metering Pumps
7. Instrumentation and Controls
 - pH, ORP and Level Controls
 - Pressure Differential Gauges
 - Pressure Gauges
 - Control Panel with Transformer and Motor Starters

Additional details are provided in the attached equipment specifications.

1. Air Supply Fan:

Air Flow Rate, cfm	3,000	6,000	10,000
Duct Pressure Losses, in. WC	2.0	2.0	2.0
Scrubber Pressure Losses, in. WC	7.0	7.0	7.0
Total Static Pressure, in. WC	9.0	9.0	9.0
Brake HP	6.4	12.9	21.5
Motor HP	10.0	20.0	30.0
Material of Construction	FRP	FRP	FRP

2. FRP Vessel Inlet Transition Piece:

The fan outlet will be provided with a flanged connection. An interconnecting transition between the fan outlet flanged connection and the system inlet will be provided. If recommended by the fan supplier, a flanged expansion joint for the fan inlet to the FRP vessel inlet transition piece will be provided.

3. Scrubber and Chemical Sump:

The complete scrubber system is made of FRP and consists of a pre-conditioning stage and two stages of odor absorption. The overall foot print of the scrubber is as follows:

Length, ft	8.25	10.0	12.5
Width, ft	5.25	6.50	7.50
Height, ft	9.50	11.0	11.5
Sump Capacity (Stage 1), gal.	180	324	468
Sump Capacity (Stage 2/3), gal.	397	536	773
Shipping Weight, lbs	3,700	5,600	6,800
Operating Weight, lbs	9,500	14,500	19,500

4. Exhaust Stack:

The scrubber system is fitted with a discharge stack and is supported from the top of the scrubber. The stack has the following dimensions:

Diameter, ft.:	1.5	2.0	2.5
Height above the scrubber, ft:	5.0	5.0	5.0

5. Chemical Recirculation Pumps:

a. Stage 1

Recirculation Rate, gpm	70	120	180
Brake HP	2.6	2.8	5.7
Motor HP	3.0	3.0	7.5
Quantity	1	1	1
Construction	CPVC	CPVC	CPVC
Design	Vertical Centrifugal Seal-less		

b. Stage 2/3

Recirculation Rate, gpm	140	180	270
Brake HP	2.9	5.7	6.8
Motor HP	5.0	7.5	7.5
Quantity	1	1	1
Construction	CPVC	CPVC	CPVC
Design	Vertical Centrifugal Seal-less		

6. Chemical Metering Pumps:

a. Sodium Hydroxide

Maximum Capacity, gph	5	5	5
Operating Mode (pH), Volts DC	0 - 90	0 - 90	0 - 90
No. of Pumps	2	2	2
Solution, % by wt.	50	50	50

b. Sodium Hypochlorite

Maximum Capacity, gph	12	12	12
Operating Mode (ORP), Volts DC	0 - 90	0 - 90	0 - 90
No. of Pumps	1	1	1
Solution, % by wt.	12.5	12.5	12.5

7. Electrical Control Panel, Instrumentation and Miscellaneous Accessories:

The scrubber system includes a complete pre-wired electrical control panel, including control voltage transformer, motor starters, pH and ORP controllers, and scrubber sump and chemical storage low level controls. Other equipment provided with the system are recirculation pumps discharge pressure gauges, differential

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pressure gauges for scrubber and mist eliminator, and make-up water flow meter and float control valve.

The power supply shall be 480V, 3PH, 60 Hertz rated at __ Amp service and 120V, 1PH, 60 Hz rated at __ Amp service.

As a minimum, the electrical control panel will have the following switches and alarms:

- System - ON-OFF switch with status light
- Fan - H-O-A switch with status light
- Stage 1 Recirculation Pump - H-O-A switch with status light
- Stage 2/3 Recirculation Pump - H-O-A switch with status light
- NaOCl Metering Pump - H-O-A switch with status light
- NaOH Metering Pumps - H-O-A switch with status light
- Stage 1 Low Sump Level - alarm with status light
- Stage 2/3 Low Sump Level - alarm with status light
- Low NaOH Storage Tank Level - alarm with status light
- Low NaOCl Storage Tank Level - alarm with status light
- pH Probes and Controllers
- ORP Probes and Controllers
- Motor starters for recirculation pumps and exhaust fan

The Odor Control System shall include the following accessories:

- Make-up water flow meter
- Blowdown control (manual)
- Recirculation pump discharge pressure gauges
- Differential pressure gauges for scrubber and mist eliminator.
- Sump sight glass level indicator

Ancillary Equipment Provided as an Option or By Others

8-9. Recommended Chemical Storage Tanks:

Sodium Hypochlorite (12.5%), gal	1,000	1,000	2,000
Sodium Hydroxide (50%), gal	500	500	500

10. Water Softener System

The water softener needs to be capable of removing the hardness to no more than 0.5 grains and shall be a self-regenerating duplex type.

D. MAJOR SYSTEM FEATURES/ADVANTAGES:

The following is a brief discussion of the tremendous benefits of the LO/PRO[®] system:

1. Patented Process

The LO/PRO[®] Odor Control System by USFilter RJ Environmental Products is a patented chemical process (U.S. Patent No. 5,876,662) which is designed to provide low maintenance and minimize chemical cost by making most effective use of the reactive chemicals.

A second patent has also been granted for the physical configuration of the LO/PRO system. The LO/PRO scrubber uses a unique arrangement of baffles to provide a multi-stage packed tower scrubber, which maximizes the air throughput while minimizing the footprint and height of the vessel. An extended sump enables the use of vertical recirculation pumps and vertical mounting of pH and ORP probes, chemical injection valves and other instrumentation so that they can be easily cleaned and calibrated without taking the system off line.

2. Installation and Construction Costs

The LO/PRO system is completely factory-assembled including piping and wiring in order to minimize installation time and cost. Installation requirements are reduced to anchoring scrubber to the ground, bringing electrical power to the control panel, plumbing from chemical tanks to metering pumps, and installation of inlet and exhaust ductwork. This is in contrast to a conventional packed-tower system which will require a much larger concrete pad and will require installation of: interconnecting duct among the stages; a separate control panel; wiring from the panel to recirculation pumps, metering pumps, and pH and ORP probes; and piping to and from all chemical and recirculation pumps. The LO/PRO[®] is very quickly installed and can be removed and relocated at a minimum cost as well.

3. Proven Track Record

The USFilter LO/PRO Odor Control System has been available since 1994. Since that time approximately 150 systems have been sold with more than 100 of these systems presently installed and operational. This amounts to years of operational experience for our design and field service engineers. The LO/PRO is a fully developed, mature product supported by an extensive list of successful installations (attached).

The LO/PRO system has been thoroughly tested in performance tests at every installation, and in every case exceeded design efficiencies.

USFilter RJ Environmental staff have designed, built, commissioned and serviced over 300 wet scrubber odor control scrubber systems over the past seven years. Our personnel experience and number of operating installations are unequalled in the odor control industry.

4. Reliability in Design and Fabrication

The LO/PRO system incorporates many design innovations that improve reliability and promote ease of maintenance. Some of these include:

- Vertical seal-less sump pumps minimize maintenance and eliminate the need for costly and troublesome seal water piping
- Deck-mounted pH and ORP probes allow easy calibration and cleaning while the scrubber is fully operational
- Premium vinyl ester FRP construction with Nexus corrosion liner provide excellent strength, durability and corrosion resistance
- As with every odor control system periodic cleaning is necessary. The LO/PRO system is designed to provide easy cleaning access through manways that open into every compartment within the scrubber system.

The LO/PRO system is completely assembled and factory-tested prior to shipping. An extensive Quality Control inspection is performed prior to shipping, including a detailed FRP inspection in accordance with ASTM guidelines, hardness and wall thickness measurements, electrical wiring inspection, hydrostatic and hydrodynamic testing, and operational testing of components, instrumentation and system alarms. Baseline data for pump and fan amperage and system pressures are recorded and again verified at system startup.

5. Small Footprint and Low Profile

Further cost savings are gained through better utilization of plant floor space. The rectangular shape and compact design of the LO/PRO system requires a fraction of the footprint required by conventional packed tower systems, with substantially lower vertical profile. The patented baffle arrangement maximizes the cross sectional area and length of the flow path while minimizing vessel size and eliminating interconnecting ductwork.

Conventional packed tower systems use horizontal recirculation pumps located on separate concrete pads and containment areas with extensive piping to and from the scrubber, seal flush piping, isolation valves, chemical injection and probe piping. The patented LO/PRO system uses vertical recirculation pumps and deck mounted probes and injection piping which completely eliminates the need for a separate area to house recirculation pumps and associated piping.

6. Minimize Chemical Costs

The patented LO/PRO process is uniquely designed to minimize chemical costs. This is accomplished by using relatively inexpensive caustic to remove 70-80% of the odors in the first stage, and then treating the remaining 20-30% of the odors with a combination of bleach and caustic in Stages 2 and 3. The overflow of waste chemicals from Stages 2/3 to 1 further promotes complete chemical utilization by minimizing the amount of discharge of unreacted chemicals. In addition, the waste stream combination also helps externally oxidize any dissolved sulfides and reduces any potential packing fouling in the tower due to sulfur formation (patented process).

7. Minimize Down Time

The LO/PRO system is designed to enable cleaning and calibration of pH and ORP probes, and chemical injection piping while the system is operational – with no down time. All other system components are easily accessible from the outside. The pumps are outside and can be removed from service in a very short period of time.

8. Provides Maximum Value

The LO/PRO system is unique in the Odor Control market and offers operational and cost advantages that cannot be matched by conventional odor control technologies. We believe that when all factors are considered, the LO/PRO system offers the maximum value in terms of performance, reliability, service and cost.

E. UTILITY REQUIREMENTS

All utility requirements are presented in the tables at the end of this section.

**TABLE 1: RJ ENVIRONMENTAL PRODUCTS' LO/PRO ODOR CONTROL SYSTEM
DESIGN AND PERFORMANCE CRITERIA**

File No. M99-083.calcs-101100.xls

I. DESIGN SPECIFICATIONS AND PERFORMANCE REQUIREMENTS:

Air Flow Rate, scfm	3,000	6,000	10,000
Average Inlet H ₂ S Concentration, ppm	25	25	25
Peak Inlet H ₂ S Concentration, ppm	50	50	50
Minimum Removal Efficiency, %	99.5%	99.5%	99.5%

II. SYSTEM PERFORMANCE CALCULATIONS:

A. Scrubber Performance Prediction:

Stage #1: Pre-treatment (Fresh NaOH + Blowdown from stage #2/#3):

Liquid recirculation rate, gpm	70	120	180
Chemical	Blowdown	NaOH	NaOH
pH operating range:	10 to 10.5	10 to 10.5	10 to 10.5

Stage #2: Gas Absorption (Fresh NaOCl/NaOH):

Liquid recirculation rate, gpm	70	60	90
Chemical	NaOCl/NaOH	NaOCl/NaOH	NaOCl/NaOH
pH operating range:	10 to 10.5	10 to 10.5	10 to 10.5
ORP, +mV	600	600	600
NaOCl, % by wt.	-0.2	-0.2	-0.2

Stage #3: Gas Absorption (Fresh NaOCl/NaOH):

Liquid recirculation rate, gpm	70	120	180
Chemical	NaOCl/NaOH	NaOCl/NaOH	NaOCl/NaOH
pH operating range:	10 to 10.5	10 to 10.5	10 to 10.5
ORP, +mV	600	600	600
NaOCl, % by wt.	-0.2	-0.2	-0.2

B. Scrubber Pressure Drop Calculations:

Total Pressure Drop: Inlet Flange to Outlet Flange, in WC	7.0	7.0	7.0
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**TABLE 2: UTILITIES REQUIREMENTS: LO/PRO SCRUBBER SYSTEM
WITH Caustic Addition in 1st Stage**

A. <u>Design Specifications:</u>				
Air Flow Rate, scfm	3,000	6,000	10,000	
Average Inlet H2S Concentration, ppm	25	25	25	
Peak Inlet H2S Concentration, ppm	50	50	50	
Minimum Removal Efficiency, %	99.5%	99.5%	99.5%	
B. <u>Make-up Water Requirements:</u>				
Flow rate, gpm	1	2	3	
Pressure, psig	25	25	25	
C. <u>Blow Down, gpm</u>				
	1	2	3	
D. <u>Chemical Requirements:</u>				
Based on Average Inlet H2S Concentration				
a. Sodium Hydroxide, 50%, gph (Note 1): STAGE #1:	0.1	0.2	0.4	
b. Sodium Hypochlorite, 12.5%, gph (Note 2) STAGE #2/#3:	1.0	2.1	3.5	
c. Sodium Hydroxide, 50%, gph (Note 3): STAGE #2/#3:	0.1	0.1	0.2	
Based on Peak Inlet H2S Concentration				
a. Sodium Hydroxide, 50%, gph (Note 1): STAGE #1:	0.2	0.5	0.8	
b. Sodium Hypochlorite, 12.5%, gph (Note 2) STAGE #2/#3:	2.1	4.1	6.9	
c. Sodium Hydroxide, 50%, gph (Note 3): STAGE #2/#3:	0.1	0.2	0.3	
E. <u>Electrical Requirements:</u>				
a. Stage 1- Recirculation pumps, bhp	2.6	2.8	5.7	
b. Stage 2/3 - Recirculation pumps, bhp	2.9	5.7	6.8	
c. Air supply fan, bhp	6.4	12.9	21.5	
d. Chemical metering pumps, bhp	<1	<1	<1	
F. <u>Annual Operating Cost (per system)*</u>				
	\$12,081	\$23,176	\$37,969	
a. Sodium Hypochlorite (\$0.65/gal)	\$5,905	\$11,810	\$19,683	
b. Sodium Hydroxide (\$1.00/gal)	\$1,468	\$2,936	\$4,893	
c. Electricity (\$0.06/kwh)	\$4,708	\$8,430	\$13,394	
*Based on average Inlet H2S Concentration				

Note 1: Based on 2 mole of NaOH/mole H2S, and 70% of average/peak inlet H2S concentration removed in the first stage.
Note 2: Based on 4 mole of NaOCl/mole H2S at average/peak H2S concentration and 10% Excess.
Note 3: Based on 2 mole of NaOH/mole H2S at average/peak H2S concentration and 10% Excess.

TABLE 3: UTILITIES REQUIREMENTS: LO/PRO SCRUBBER SYSTEM
WITHOUT Caustic Addition in First Stage (for Comparison)

A. Design Specifications:				
Air Flow Rate, scfm	3,000	6,000	10,000	
Average Inlet H2S Concentration, ppm	25	25	25	
Peak Inlet H2S Concentration, ppm	50	50	50	
Minimum Removal Efficiency, %	99.5%	99.5%	99.5%	
B. Make-up Water Requirements:				
Flow rate, gpm	1	2	3	
Pressure, psig	25	25	25	
C. Blow Down, gpm				
	1	2	3	
D. Chemical Requirements:				
At Average Inlet H2S Concentration				
a. Sodium Hypochlorite, 12.5%, gph (Note 1) STAGE #2/#3:	3.5	6.9	11.5	
b. Sodium Hydroxide, 50%, gph (Note 2): STAGE #2/#3:	0.2	0.3	0.6	
At Peak Inlet H2S Concentration				
a. Sodium Hypochlorite, 12.5%, gph (Note 1) STAGE #2/#3:	6.9	13.8	23.0	
b. Sodium Hydroxide, 50%, gph (Note 2): STAGE #2/#3:	0.3	0.7	1.1	
E. Electrical Requirements:				
a. Stage 1- Recirculation pump, bhp	2.6	2.8	5.7	
b. Stage 2/3 - Recirculation pump, bhp	2.9	5.7	6.8	
c. Air supply fan, bhp	6.4	12.9	21.5	
d. Chemical metering pumps, bhp	<1	<1	<1	
F. Annual Operating Cost (per system)*				
	\$25,858	\$50,731	\$83,895	
a. Sodium Hypochlorite (\$0.65/gal)	\$19,683	\$39,365	\$65,609	
b. Sodium Hydroxide (\$1.00/gal)	\$1,468	\$2,936	\$4,893	
c. Electricity (\$0.06/kwh)	\$4,708	\$8,430	\$13,394	
*Based on average inlet concentration				

Note 1: Based on 4 mole of NaOCl/mole H2S at average/peak H2S concentration and 10% Excess.
Note 2: Based on 2 mole of NaOH/mole H2S at average/peak H2S concentration and 10% Excess.

TABLE 4: MAJOR SYSTEM COMPONENTS SIZING

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A. Air Supply Fan

Air Flow Capacity, scfm	3,000	6,000	10,000
SP @ Scrubber Inlet, in WC (Assumed)	2.0	2.0	2.0
Pressure Drop across Wet Scrubber, in WC	7.0	7.0	7.0
Total SP, in WC	9.0	9.0	9.0
Brake HP	6.4	12.9	21.5
Horsepower	10.0	20.0	30.0

B. Scrubber System:

No. of Stages:	Three	Three	Three
Arrangement:	Vertical	Vertical	Vertical
Overall length, ft	8.25	10.0	12.5
Overall width, ft	5.25	6.50	7.50
Overall height (without Stack), ft	9.50	11.0	11.5
Overall height including Stack, ft	14.5	16.0	16.5
Overall length including exhaust fan and transition, ft	15.0	17.5	20.5

Stage #1: Fresh NaOH + Blowdown circulation:

Sump Capacity, gal	180	324	468
Recirculation Rate, gpm	70	120	180
Sump res. time, min	2.6	2.7	2.6

Stage #2/#3: NaOH/NaOCl

Sump Capacity, gal	397	536	773
Recirculation Rate, gpm	140	180	270
Sump res. time, min	2.8	3.0	2.9

Accessories:

Packing Media
Mist Eliminator
Nozzles

C. Exhaust Stack:

Diameter, ft	1.5	2.0	2.5
Height above scrubber, ft	5.0	5.0	5.0
Overall height, ft.	14.5	16.0	16.5
Exit Velocity, fpm	1,699	1,911	2,038

D1. Recirculation Pump: Stage #1

Flow Capacity, gpm	70	120	180
BHP	2.6	2.8	5.7
Motor HP	3.0	3.0	7.5
Material	CPVC	CPVC	CPVC
Vertical Seal-less			

D2. Recirculation Pump: Stage #2/3

Flow Capacity, gpm	140	180	270
BHP	2.9	5.7	6.8
Motor HP	5.0	7.5	7.5
Material	CPVC	CPVC	CPVC
Vertical Seal-less			

TABLE 4: MAJOR SYSTEM COMPONENTS SIZING [Continued]

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E. Chemical Metering Pumps

STAGE #1: Sodium Hydroxide:				
Average Demand Capacity, gph	0.1	0.2	0.4	
Max. Capacity, gph	5	5	5	
No. of Pump	1	1	1	
Operating Mode	4-20 mA	4-20 mA	4-20 mA	

STAGE #2/3: Sodium Hypochlorite:				
Average Demand Capacity, gph	1.0	2.1	3.5	
Max. Capacity, gph	12	12	12	
No. of Pump	1	1	1	
Operating Mode	4-20 mA	4-20 mA	4-20 mA	

STAGE #2/3: Sodium Hydroxide:				
Average Demand Capacity, gph	0.1	0.1	0.2	
Max. Capacity, gph	5	5	5	
No. of Pump	1	1	1	
Operating Mode	4-20 mA	4-20 mA	4-20 mA	

F. Instrumentation and Controls:

Stage #1:
Scrubber Sump Low Level Control Alarm
Recirculation Stream pH Control for NaOH Injection

Stage #2/#3:
Scrubber Sump Low Level Control Alarm
Recirculation Stream pH Control for NaOH Injection
Recirculation Stream ORP Control for NaOCl Injection

G. Miscellaneous Accessories:

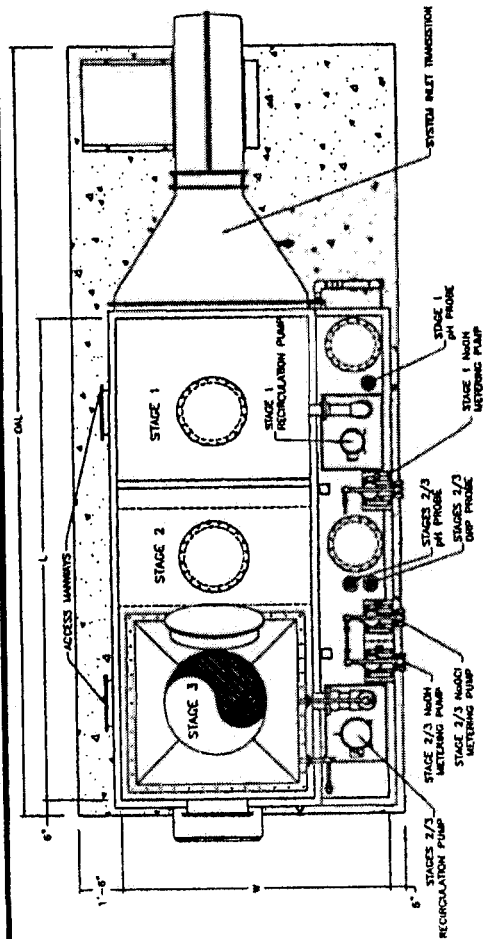
Make-up Water Flow Meter : Stage #1 (future add-on if necessary)
Make-up Water Flow Meter : Stage #2/#3
Blow Down Control: Stage #1
Recirculation Pump Discharge Pressure Gauges
Pressure Differential Gauge: Scrubber
Pressure Differential Gauge: Mist Eliminator
Sump Sight Glass : Stage #1 and Stage #2/#3

H. Chemical Storage Tanks:

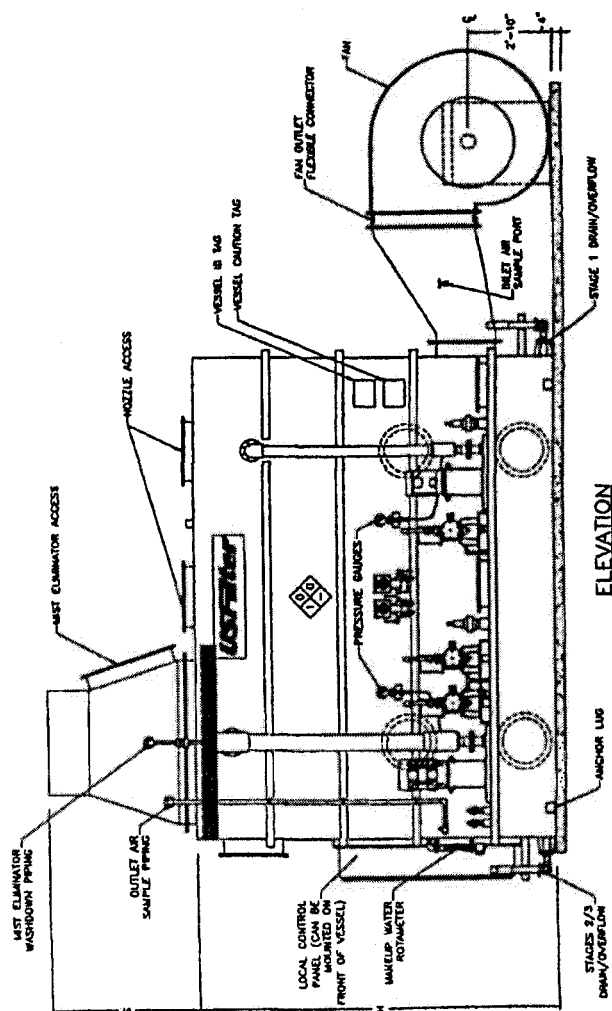
12.5% Sodium Hypochlorite, gallons:	1,000	1,000	2,000
50% Sodium Hydroxide, gallons:	500	500	500

I. System Weight:

Shipping Weight, lbs.:	3,700	5,600	6,800
Operating Weight, lbs.:	9,500	14,500	19,500



PLAN



ELEVATION

MODEL	LP-4000	LP-5000
AIR FLOW RATE, cfm	6,000	10,000
LENGTH, ft (L)	10.0	12.5
WIDTH, ft (W)	6.5	7.5
SCRUBBER HEIGHT, ft (H)	11.0	11.5
LENGTH WITH FAN (ft)	17.5	20.5
STACK HEIGHT, ft (S)	5.0	5.0
OPERATING WEIGHT, lbs	14,500	19,500
SHIPPING WEIGHT, lbs	5,600	6,800

FEATURES & BENEFITS:

- PRE-TREATMENT ALLOWS GREATER BLOWDOWN WITH MINIMUM CHEMICAL WASTE
- SEAL-LESS PUMP ELIMINATES SUCTION PIPING, SEAL WATER AND REDUCES FOOTPRINT.
- 3-STAGE GUARANTEES VERY HIGH PERFORMANCE.
- LOWER PRESSURE DROP THAN A CONVENTIONAL VERTICAL SYSTEM.
- COMPLETE PACKAGED SYSTEM REQUIRES VERY LOW INSTALLATION EFFORT.

NOTES:

1. POWER REQUIREMENT: 480 V, 3 PH, 60 HZ AND 120 V, 1PH, 60 HZ
2. DRAIN AND OVERFLOW CAN BE LOCATED AS REQUIRED.
3. VESSEL AND FAN ALSO AVAILABLE IN MIRRORED CONFIGURATION.
4. U.S. PATENT NO. 5,876,862

FIGURE 2: THREE STAGE SCRUBBER SYSTEM
GENERAL ARRANGEMENT

USFilter A DIVERSIFIED PRODUCT - SAN DIEGO, CA 10000 LINDSEY AVE. SAN DIEGO, CA 92121 TEL: (619) 444-1000 FAX: (619) 444-1001 CIRCLE 100 ON READER SERVICE CARD		R.E. PRODUCTS 1 VPL-302	
		LQ/PRO ODOR CONTROL SYSTEM GENERAL ARRANGEMENT DIAGRAM	
DATE	1-1-80	CHECKED	APPROVED
REV. DATE	-		

ATTACHMENTS

List of Tables

TABLE 1:	Design & Performance Criteria for Odor Control System
TABLE 2:	Utility Requirements
TABLE 3:	Major System Components Sizing

List of Figures

FIGURE 1:	General Arrangement Diagram
FIGURE 2:	Process Diagram

**TABLE 1: RJ ENVIRONMENTAL PRODUCTS' LO/PRO ODOR CONTROL SYSTEM (ATAD)
DESIGN AND PERFORMANCE CRITERIA**

File No. M99-083.calcs-lp-021301.xls

I. DESIGN SPECIFICATIONS AND PERFORMANCE REQUIREMENTS:

Air Flow Rate, scfm	6,000
Average Inlet H ₂ S Concentration, ppm	25
Peak Inlet H ₂ S Concentration, ppm	50
Minimum Removal Efficiency, %	99.5%

II. SYSTEM PERFORMANCE CALCULATIONS:

A. Scrubber Performance Prediction:

Stage #1: Pre-treatment:	
Liquid recirculation rate, gpm	120
Chemical	NaOH/NaOCl/H ₂ SO ₄
pH operating range:	10 to 10.5
ORP, +mV	600
NaOCl, % by wt.	-0.2

Stage #2: Gas Absorption:	
Liquid recirculation rate, gpm	120
Chemical	NaOH/NaOCl/H ₂ SO ₄
pH operating range:	10 to 10.5
ORP, +mV	600
NaOCl, % by wt.	-0.2

Stage #3: Gas Absorption/Polishing Stage:	
Liquid recirculation rate, gpm	120
Chemical	NaOH
pH operating range:	10 to 10.5

B. Scrubber Pressure Drop Calculations:

Total Pressure Drop: Inlet Flange to Outlet Flange, in WC	8.0
---	-----

TABLE 2: UTILITIES REQUIREMENTS: LO/PRO SCRUBBER SYSTEM

A. Design Specifications:

Air Flow Rate, scfm	6,000
Average Inlet H ₂ S Concentration, ppm	25
Peak Inlet H ₂ S Concentration, ppm	50
Minimum Removal Efficiency, %	99.5%

Please note that the utilities requirements do not consider any compounds other than H₂S.

B. Make-up Water Requirements:

Flow rate, gpm	2
Pressure, psig	25

C. Blow Down, gpm

2

D. Chemical Requirements (Notes 1, 2):

Based on Average Inlet H₂S Concentration

a. Sodium Hydroxide, 50%, gph (Note 3):	0.3
b. Sodium Hypochlorite, 12.5%, gph (Note 4):	2.1

Based on Peak Inlet H₂S Concentration

a. Sodium Hydroxide, 50%, gph (Note 3):	0.7
b. Sodium Hypochlorite, 12.5%, gph (Note 4):	4.1

E. Electrical Requirements:

a. Recirculation Pumps, bhp (total)	8.4
b. Air supply fan, bhp	14.3
c. Chemical metering pumps, bhp	<1

F. Annual Operating Cost (per system)*

\$23,694

a. Sodium Hypochlorite (\$0.65/gal)	\$11,810
b. Sodium Hydroxide (\$1.00/gal)	\$2,936
c. Electricity (\$0.06/kwh)	\$8,948

*Based on average Inlet H₂S Concentration

Note 1: All amounts include 10% excess chemical.

Note 2: Chemical calculations do not consider any odor compounds other than H₂S.

Note 3: Based on 2 mole of NaOH/mole H₂S.

Note 4: Based on 4 mole of NaOCl/mole H₂S at inlet H₂S concentration and 70% H₂S removal in Stage 1.

TABLE 3: MAJOR SYSTEM COMPONENTS SIZING

Page 1 of 2

A. Air Supply Fan

Air Flow Capacity, scfm	6,000
SP @ Scrubber Inlet, in WC (Assumed)	2.0
Pressure Drop across Wet Scrubber, in WC	8.0
Total SP, in WC	10.0
Brake HP	14.3
Horsepower	20.0

B. Scrubber System:

No. of Stages:	Three
Arrangement:	Vertical
Overall length, ft	15.0
Overall width, ft	6.50
Overall height (without Stack), ft	11.0
Overall height including Stack, ft	16.0
Overall length including exhaust fan and transition, ft	23.0

Stage #1:

Sump Capacity, gal	324
Recirculation Rate, gpm	120
Sump res. time, min	2.7

Stage #2:

Sump Capacity, gal	492
Recirculation Rate, gpm	120
Sump res. time, min	4.1

Stage #3:

Sump Capacity, gal	492
Recirculation Rate, gpm	120
Sump res. time, min	4.1

Accessories:

Packing Media
Mist Eliminator
Nozzles

C. Exhaust Stack:

Diameter, ft	2.0
Height above scrubber, ft	5.0
Overall height, ft	16.0
Exit Velocity, fpm	1,911

D. Recirculation Pumps (Each Stage):

Flow Capacity, gpm	120
BHP	2.8
Motor HP	3.0
Material	CPVC
Vertical Seal-less	

TABLE 3: MAJOR SYSTEM COMPONENTS SIZING [Continued]

Page 2 of 2

E. Chemical Metering Pumps

STAGE #1: Sodium Hydroxide and/or Sulfuric Acid:

Max. Capacity, gph

5

Operating Mode

4-20 mA

STAGE #1: Sodium Hypochlorite (for use as required):

Max. Capacity, gph

5

Operating Mode

4-20 mA

STAGE #2: Sodium Hydroxide and/or Sulfuric Acid:

Max. Capacity, gph

5

Operating Mode

4-20 mA

STAGE #2: Sodium Hypochlorite (for use as required):

Max. Capacity, gph

5

Operating Mode

4-20 mA

STAGE #2: Sodium Hydroxide and/or Sulfuric Acid:

Max. Capacity, gph

5

Operating Mode

4-20 mA

F. Instrumentation and Controls:

STAGE #1:

Scrubber Sump Low Level Control Alarm

Recirculation Stream pH Control for NaOH and/or H₂SO₄ Injection

Recirculation Stream ORP Control for NaOCl Injection

STAGE #2:

Scrubber Sump Low Level Control Alarm

Recirculation Stream pH Control for NaOH and/or H₂SO₄ Injection

Recirculation Stream ORP Control for NaOCl Injection

STAGE #3:

Scrubber Sump Low Level Control Alarm

Recirculation Stream pH Control for NaOH and/or H₂SO₄ InjectionG. Miscellaneous Accessories:

Make-up Water Flow Meter: Stage #3

Blow Down Control: Stage #1

Recirculation Pump Discharge Pressure Gauges

Pressure Differential Gauge: Scrubber

Pressure Differential Gauge: Mist Eliminator

Sump Sight Glasses

H. Chemical Storage Tanks:

12.5% Sodium Hypochlorite, gallons:

1,000

50% Sodium Hydroxide, gallons:

280

93% Sulfuric Acid, gallons:

280

I. System Weight:

Shipping Weight, lbs.:

6,800

Operating Weight, lbs.:

20,500



FEATURES & BENEFITS:

- PRE-TREATMENT ALLOWS GREATER BLOWDOWN WITH MINIMUM CHEMICAL WASTE.
- SOAL-LESS PUMP ELIMINATES SUCTON PIPING, SEAL WATER AND REDUCES FOOTPRINT.
- 3-STAGE GUARANTEES VERY HIGH PERFORMANCE.
- LOWER PRESSURE DROP THAN A CONVENTIONAL VERTICAL SYSTEM.
- COMPLETE PACKAGED SYSTEM REQUIRES VERY LOW INSTALLATION EFFORT.

NOTES

1. POWER REQUIREMENT: 480 V, 3 PH, 60 Hz (OR LOCAL SOURCE)
2. OVER AND OVERFLOW CAN BE LOCATED AS REQUIRED.
3. VESSEL AND PAK ALSO AVAILABLE IN UNPRESSED CONFIGURATION.
4. U.S. PATENT NO. 5,875,662

FIGURE 1: LO/PRO--SP (ATAO) GENERAL ARRANGEMENT

[illegible]

C-3
Laboratory Equipment



	Item Description	Quantity	Vendor	Item Number
1	Autoclave (sterilizer)	1	BL	30330
2	Autoclave Protective Wrap	1	BL	30350
3	Lab Centrifuge (Raven)	1	BL	41415
4	Balance (Sciencetech) 0.1 mg	1	BL	72384
5	Precision Weight Set	1	BL	34650
6	Steambath	1	HACH	23479-00
7	Stereo Microscope 10x + 30x	1	BL	33600
8	Microscope 40X to 400X	1	BL	33649
9	3"x1" Microscope Slides (100/pack)	3	BL	33650
10	Benchtop pH Meter (Hanna)	1	BL	40400
11	Electrode Stand	1	BL	28100
12	Benchtop Turbidimeter (HF Scientific)	1	BL	41318
13	Benchtop DO/BOD Meter (WTW Oxi Level 2)	1	BL	40235
14	BOD Bottles (300 mL) (set of 24 - numbered)	1	BL	34971
15	BOD Seeding Agent	1	BL	41250
16	COD Block Digester	1	BL	41230
17	COD Reagent Kit (50 tests)	1	BL	27768
18	Benchtop Hot Plate (Cimarec)	1	BL	40010
19	Cabinet Incubator (5.0 Cu-ft) (+/- .5 deg. C)	1	BL	28470
20	Lab Thermometer (-10 to 260 C)	3	BL	41112
21	Desiccator (plastic)	1	BL	38090
22	Desiccator Plate (ceramic/metal)	1	BL	39100
23	Desiccant	4	BL	39132
24	Muffle Furnace (Thermolyne 129 in3)	1	BL	39905
25	Double Wall Gravity Oven (1.3 cu-ft)	1	BL	68771
26	Stop Watch/Timer	1	BL	41138
27	Water Bath Incubator (Large)	1	BL	36940
28	Filter Paper for TSS (110 mm) (100/pack)	4	BL	39210
29	Filtering Flask (1000 mL)	2	BL	33260
30	Buchner Funnel (110 mm) (polypropylene)	2	BL	39824
31	Vacuum Pump (Auto)	1	BL	39322
32	Tygon Tubing (1/4" ID)	1	BL	41172
33	Magnetic Stir Unit (7" x 7")	1	BL	40945
34	Settleometer Kit (Plastic)	1	BL	41420
35	Sludge Judge (15 feet)	1	BL	71475
36	Imhoff Cones (Pack of 4) Plastic	1	BL	41372
37	Imhoff Cone Rack	1	BL	41373
38	Water Sampling Bags w/ De-chlor (100 mL) (100/pack)	1	BL	30920
39	Water Sampling Bags w/ De-chlor (300 mL) (100/pack)	1	BL	30921
40	Sample Bag Rack	1	BL	30930
41	Water Sampling Scoop	1	BL	30928
42	Glass Beaker (100 mL) (12/pack)	2	BL	34730
43	Glass Beaker (250 mL) (12/pack)	2	BL	34740
44	Glass Beaker (1000 mL) (6/pack)	2	BL	34770
45	Glass Graduated Cylinder (100 mL)	2	BL	37830
46	Glass Graduated Cylinder (500 mL)	2	BL	37850
47	Glass Graduated Cylinder (1000 mL)	2	BL	37860
48	Glass Erlenmeyer Flask (250 mL) (12/pack)	2	BL	39340
49	Glass Erlenmeyer Flask (500 mL) (6/pack)	2	BL	39350
50	Glass Erlenmeyer Flask (1000 mL) (2/pack)	2	BL	33290
51	Glassware Rack	2	BL	40785

52	Glass Pipet (10 mL)	3	BL	40635
53	Glass Pipet (25 mL)	3	BL	40640
54	Pipet Filler	2	BL	40666
55	Pipet Support Rack	1	BL	40735
56	Pipet Brush	1	BL	36800
57	Measuring Dish (70 mL)	3	BL	72392
58	N-Dex Rubber Gloves (100/pack) (large)	3	BL	41769
59	Evaporation Dish (35 mL)	5	BL	72390
60	Evaporation Dish (150 mL)	5	BL	72394
61	Safety Face Shield	5	BL	71495
62	Safety Goggles - Chem Splash	5	BL	41596
63	Lab Tongs	2	BL	41160
64	Stainless Steel Forceps	3	BL	31310
65	Condenser (30 cm)	2	HACH	1806-00
66	Condenser Flask (500 mL)	2	HACH	1807-49Z
67	Buret (25 mL)	2	HACH	14059-40
68	Buret (50 mL)	2	HACH	14059-41
	Premeasured Test Kits (LaMotte)			
69	Total Alkalinity Test (50)	1	BL	31430
70	Ammonia Test (50)	1	BL	27700
71	Nitrate Test (50)	1	BL	27730
72	Nitrite Test (50)	1	BL	27735
73	DPD Test (50)	1	BL	31520

SECTION 2

MODEL LP-4000-SP (6,000 cfm ATAD Process)

TECHNICAL INFORMATION

- A. Design Specifications and Performance Requirements**
- B. Process Description**
- C. Major System Components Sizing**
- D. Major System Features & Advantages**
- E. Utilities Requirements**

Attachments

Tables and Drawings

Equipment Specifications

A. DESIGN SPECIFICATIONS AND PERFORMANCE REQUIREMENTS

Design Air Flow Rate, scfm	6,000
Average Inlet H ₂ S Concentration, ppm	25
Peak Inlet H ₂ S Concentration, ppm	50
Minimum Removal Efficiency, %	99.5

B. PROCESS DESCRIPTION

Odorous and hydrogen sulfide laden air passes through ductwork to the LO/PRO® odor control scrubber. The system utilizes Sulfuric Acid (H₂SO₄), Sodium Hydroxide (NaOH) and Sodium Hypochlorite (NaOCl) to react with and remove the odorous compounds present in the airstream.

The system is designed with flexibility in mind in order to remove the specific odorous compounds in the air stream. Our data shows that the combination of acid, bleach and caustic removes compounds associated with the ATAD process extremely well. The system will have the flexibility to inject these chemicals into the first two stages and will use caustic in the third stage to polish any remaining odors.

If other odors associated with the ATAD process do not pose a problem at times, the system can use NaOH in the first stage to pre-treat the hydrogen sulfide, NaOH and NaOCl in the second stage to oxidize the remaining hydrogen sulfide and a small amount of caustic in the last stage to maintain the pH.

In order to compensate for the consumption of H₂SO₄, NaOH and NaOCl in the system the pH and Oxidation Reduction Potential (ORP) are continuously monitored by pH and ORP controllers. The pH and ORP levels are maintained at the proper setpoints via the injection of H₂SO₄ or NaOH and NaOCl, respectively, by metering pumps into the system. In turn, the pH and ORP controllers continuously alter the injection rate of H₂SO₄, NaOH and NaOCl, via the metering pumps, to maintain the system pH and ORP at the optimum settings.

USFilter's LO/PRO® odor control system is a "once-through", three-stage absorption system consisting of three vertical counter-current gas absorption sections.

A polypropylene packing media is provided to allow the necessary chemical reactions to occur in the system. The packing is designed to allow the maximum amount of surface area while minimizing the amount of pressure drop. This configuration is critical to maximize the amount of liquid to gas contact in the system, thereby maximizing the removal efficiency of the system and minimizing chemical consumption.

The chemical reactions do create salt byproducts as well as minute amounts of water. In order to optimize the performance and minimize the maintenance of the system, the salt byproducts must be removed from the process. To accomplish this fresh water is continuously injected into the third sump. The fresh water is controlled via a flowmeter and gate valve. Any remaining chemical and the salt byproducts, dissolved in the sump liquid, are overflowed into the second sump, and then into the first sump and then out of the system at the same rate at which the fresh water is injected into it. There is an overflow above the liquid level that assures the chemical sump can never be overfilled. A low level alarm, set at below the designed sump level provides system warning. A pressure differential gauge is provided to insure that the packing does not retain an extraordinary amount of the byproducts or "plug".

The chemical sumps and absorption stages are housed in a single FRP chamber with access ports for easy and quick access to any part of the system. The spray nozzles in each section are easily removable.

This arrangement of gas absorption provides (1) COMPLETE and GUARANTEED ammonia and odor removal with efficiencies in excess of 99%, and (2) MAXIMUM chemical utilization prior to discharge from the system.

C. MAJOR SYSTEM COMPONENTS FURNISHED BY USFILTER

Each scrubber system consists of following major system components:

1. FRP Air Supply Fan
2. FRP Vessel Inlet Transition Piece
3. FRP Three Stage Scrubber System with Three Integral Sumps
4. Exhaust Stack
5. Chemical Recirculation Pumps (vertical seal-less pumps)
6. Chemical Metering Pumps
7. Instrumentation and Controls
 - pH, ORP and Level Controls
 - Pressure Differential Gauges
 - Pressure Gauges
 - Control Panel with Motor Starters

1. Air Supply Fan:

Air Flow Rate, cfm	6,000
Duct Pressure Losses, in. WC	2.0
Scrubber Pressure Losses, in. WC	8.0
Total Static Pressure, in. WC	10.0
Brake HP	14.3
Motor HP	20.0
Material of Construction	FRP

2. FRP Vessel Inlet Transition Piece:

The fan outlet will be provided with a flanged connection. An interconnecting transition between the fan outlet flanged connection and the system inlet will be provided.

3. Scrubber and Chemical Sump:

The complete scrubber system is made of FRP and consists of three stages of odor absorption. The overall foot print of the scrubber is as follows:

Length, ft	15.0
Width, ft	6.5
Height, ft	11.0
Sump Capacity (Stage 1), gal.	324
Sump Capacity (Stage 2), gal.	492
Sump Capacity (Stage 3), gal	492
Shipping Weight, lbs	6,800
Operating Weight, lbs	20,500

4. Exhaust Stack:

The scrubber system is fitted with a discharge stack and is supported from the top of the scrubber. The stack has the following dimensions:

Diameter, ft.:	2.0
Height above the scrubber, ft:	5.0

5. Chemical Recirculation Pumps:

Each sump will have a vertical centrifugal seal-less recirculation pump.

Recirculation Rate, gpm	120
Brake HP	2.8
Motor HP	3.0
Construction	CPVC

6. Chemical Metering Pumps:

a.	<u>Stage 1 - NaOH and/or H₂SO₄</u>	
	Maximum Capacity, gph	5
	Operating Mode (pH), Volts DC	0 - 90
	Solution, % by wt.	NaOH: 50, H ₂ SO ₄ : 93

b.	<u>Stage 1 - NaOCl</u>	
	Maximum Capacity, gph	5
	Operating Mode (ORP), Volts DC	0 - 90
	Solution, % by wt.	12.5
c.	<u>Stage 2 - NaOH and/or H₂SO₄</u>	
	Maximum Capacity, gph	5
	Operating Mode (pH), Volts DC	0 - 90
	Solution, % by wt.	NaOH: 50, H ₂ SO ₄ : 93
d.	<u>Stage 2 - NaOCl</u>	
	Maximum Capacity, gph	5
	Operating Mode (ORP), Volts DC	0 - 90
	Solution, % by wt.	12.5
e.	<u>Stage 3 - NaOH</u>	
	Maximum Capacity, gph	5
	Operating Mode (pH), Volts DC	0 - 90
	Solution, % by wt.	50

7. **Electrical Control Panel, Instrumentation and Miscellaneous Accessories:**

The scrubber system includes a complete pre-wired electrical control panel, including control voltage transformer, motor starters, pH and ORP controllers, and scrubber sump and chemical storage low level controls. Other equipment provided with the system are recirculation pumps discharge pressure gauges, differential pressure gauges for scrubber and mist eliminator, and make-up water flow meter and float control valve.

The power supply shall be 480V, 3PH, 60 Hertz rated at ___ Amp service and 120V, 1PH, 60 Hz rated at ___ Amp service.

As a minimum, the electrical control panel will have the following switches and alarms:

- System - ON-OFF switch with status light
- Fan - H-O-A switch with status light
- Recirculation Pumps (each) - H-O-A switch with status light
- Metering Pumps (each) - H-O-A switch with status light
- Low Sump Level (each) - alarm with status light
- Chemical Storage Tank Low Level (each) - alarm with status light
- pH Probes and Controllers (Qty. 3)
- ORP Probes and Controllers (Qty. 2)
- Motor starters for recirculation pumps and exhaust fan

USFilter RJ Environmental staff have designed, built, commissioned and serviced over 300 wet scrubber odor control scrubber systems over the past seven years. Our personnel experience and number of operating installations are unequalled in the odor control industry.

3. Reliability in Design and Fabrication

The LO/PRO system incorporates many design innovations that improve reliability and promote ease of maintenance. Some of these include:

- Vertical seal-less sump pumps minimize maintenance and eliminate the need for costly and troublesome seal water piping
- Deck-mounted pH and ORP probes allow easy calibration and cleaning while the scrubber is fully operational
- Premium vinyl ester FRP construction with Nexus corrosion liner provide excellent strength, durability and corrosion resistance
- As with every odor control system periodic cleaning is necessary. The LO/PRO system is designed to provide easy access for cleaning through 13 access manways which open into every compartment within the scrubber system.

The LO/PRO system is completely assembled and factory- tested prior to shipping. An extensive Quality Control inspection is performed prior to shipping, including a detailed FRP inspection in accordance with ASTM guidelines, hardness and wall thickness measurements, electrical wiring inspection, hydrostatic and hydrodynamic testing, and operational testing of components, instrumentation and system alarms. Baseline data for pump and fan amperage and system pressures are recorded and again verified at system startup.

4. Small Footprint and Low Profile

Further cost savings are gained through better utilization of plant floor space.

The rectangular shape and compact design of the LO/PRO system requires a fraction of the footprint required by conventional packed tower systems, with substantially lower vertical profile. The patented baffle arrangement maximizes the cross sectional area and length of the flow path while minimizing vessel size and eliminating interconnecting ductwork.

Conventional packed tower systems use horizontal recirculation pumps located on separate concrete pads and containment areas with extensive piping to and from the scrubber, seal flush piping, isolation valves, chemical injection and probe piping. The patented LO/PRO system uses vertical recirculation pumps and deck mounted probes and injection piping which completely eliminates the need for a separate area to house recirculation pumps and associated piping.

The Odor Control System shall include the following accessories:

- Make-up water flow meter
- Blowdown control (manual)
- Recirculation pump discharge pressure gauges
- Differential pressure gauges for scrubber and mist eliminator.
- Sump sight glass level indicator

8-10. Chemical Storage Tanks:

Sulfuric Acid (93%), gal	280
Sodium Hypochlorite (12.5%), gal	1,000
Sodium Hydroxide (50%), gal	280

D. MAJOR SYSTEM FEATURES/ADVANTAGES:

The following is a brief discussion of the tremendous benefits of the LO/PRO[®] system:

2. Patented Process

The LO/PRO[®] Odor Control System by USFilter RJ Environmental Products is a patented chemical process (U.S. Patent No. 5,876,662) which is designed to provide low maintenance and minimize chemical cost by making most effective use of the reactive chemicals.

A second patent has also been granted for the physical configuration of the LO/PRO system (U.S. Patent No. 6,174,498). The LO/PRO scrubber uses a unique arrangement of baffles to provide a multi-stage packed tower scrubber which maximizes the air throughput while minimizing the footprint and height of the vessel. An extended sump enables the use of vertical recirculation pumps, and enables vertical mounting of pH and ORP probes, chemical injection valves and other instrumentation so that they can be easily cleaned and calibrated without taking the scrubber off line.

2. Proven Track Record

The USFilter LO/PRO Odor Control System has been available since 1994. Since that time approximately 150 systems have been sold with more than 100 of these systems presently installed and operational. This amounts to years of operational experience for our design and field service engineers. The LO/PRO is a fully developed, mature product supported by an extensive list of successful installations.

The LO/PRO system has been thoroughly tested in performance tests at every installation, and in every case exceeded design efficiencies.

5. Flexibility

The LO/PRO system will be configured to provide maximum flexibility in operating chemistry. Acid feed and pH control will be provided in stages 1 and 2. Caustic feed and pH control will be provided in stages 1, 2 and 3. Bleach feed and ORP control will be provided in Stages 1 and 2.

The proposed system is designed with three complete, independent, counter-current stages with three sumps and three recirculation pumps (equivalent to three conventional vertical packed bed scrubbers in series). Stages 2 and 3 are provided with mist eliminators, which allows separate and even non-compatible chemical reactions.

This flexibility guarantees the highest removal efficiency while minimizing chemical costs.

6. Installation and Operating Costs

The LO/PRO system is completely factory-assembled including piping and wiring in order to minimize installation time and cost. Installation requirements are reduced to anchoring scrubber to the ground, bringing electrical power to the control panel, plumbing from chemical tanks to metering pumps, and installation of inlet and exhaust ductwork.

7. Minimize Down Time

The LO/PRO system is designed to enable cleaning and calibration of pH and ORP probes, and chemical injection piping while the system is operational – with no down time. All other system components are easily accessible from the outside. The pumps are outside and can be removed from service in a very short period of time.

8. Provides Maximum Value

The LO/PRO system is unique in the Odor Control market and offers operational and cost advantages that cannot be matched by conventional odor control technologies. We believe that when all factors are considered, the LO/PRO system offers the maximum value in terms of performance, reliability, service and cost.

E. UTILITY REQUIREMENTS

All utility requirements are presented in the tables at the end of this section.

ORIGINAL

MEMORANDUM

36

TO: Docket Control Center

FROM: Ernest G. Johnson
for Director
Utilities Division

DATE: October 18, 2007

RE: IN THE MATTER OF THE INQUIRY INTO THE OPERATIONAL PRACTICES
OF LITCHFIELD PARK SERVICE COMPANY (DOCKET NO. SW-01428A-
07-0602)

Attached please find Staff's field and office visit findings conducted on July 10, 2007. Staff docketed this Report on October 18, 2007, under Docket No. SW-01428A-06-0444. Staff feels that this report should also be docketed in the above referenced docket.

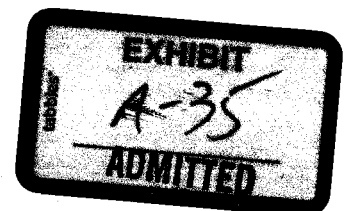
EGJ:lmh

Attachment

Arizona Corporation Commission
DOCKETED
OCT 18 2007

DOCKETED BY	nr
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RECEIVED
2007 OCT 18 P 2:02
AZ CORP COMMISSION
DOCKET CONTROL




MEMORANDUM

RECEIVED

2007 OCT 18 A 10:46

AZ CORP COMMISSION
DOCKET CONTROL

TO: Docket Control Center

FROM: Ernest G. Johnson 
Director
Utilities Division

DATE: October 18, 2007

RE: LITCHFIELD PARK SERVICE COMPANY - WASTEWATER DIVISION
FIELD AND OFFICE VISIT ON JULY 10, 2007 (DOCKET NO. SW-01428A-06-0444)

Introduction

On July 10, 2007, Staff members Marlin Scott, Jr. and Lynn Combs, conducted an unannounced site visit to Litchfield Park Service Company - Wastewater Division ("Company") for data collection regarding recent wastewater spills and odor issues at the Company's Palm Valley Water Reclamation Facility ("PVWRF").

Data Collection

On this day, Staff had discussions with Matthew Garlick, Algonquin Regional Operations Manager, and Clint Arndt, Company's Operations Manager. According to these two managers, the following is a chronology of the wastewater spills and fire incident:

Spill Nos. 1 & 2

June 20, 2007 - On this evening, a water leak behind Denny's restaurant was reported but upon the site inspection, sewage was found seeping out of a manhole. This 500 gallon spill was detained within the curb/gutters of the paved parking lot. The cause of this sewage overflow was due to; 1) one of the three disc filters at the PVWRF being clogged and 2) failure of the Supervisory Control and Data Acquisition ("SCADA") alarm system to notify the plant operators of high level flows into the PVWRF. The operators responded and inspected the filter operation, reset the filters and restored plant operations.

June 21, 2007 - Around mid-day, the SCADA system notified the plant operator of high level flows into the PVWRF. This SCADA alarm resulted in the finding of a 25,000 gallon spill from manholes behind the Denny's (same facility as June 20), Wendy's and Cracker Barrel restaurants and Palm Valley Hospital. Sewage was also spilled onto Litchfield Road from manholes in the street, estimated at 5,000 gallons to 7,000 gallons. This clean-up spill was assisted by the City of Goodyear ("City") that recovered an estimated 24,000 gallons of the spill. The cause of the spill was due to grease and oil build-up in the disc filters at the PVWRF.

Spill No. 3

June 23, 2007 – On this day, the SCADA system again notified the plant operator of abnormal flows into the PVWRF. This SCADA alarm resulted in the finding of a 500 gallon spill from a manhole again behind the same Denny's restaurant. This spill was again detained with the curb/gutter of the paved parking lot and the Company recovered all 500 gallons of the spill. The cause of this spill was due to a malfunction in the ultra-violet ("UV") equipment controls at the PVWRF.

Fire Incident

June 24, 2007 – On this day, a fire started at one of the five blowers in the blower room at the PVWRF and was put out by the fire sprinkler system. The fire was caused by the blower belt heating up. The PVWRF was placed off-line for approximately one hour. No spills occurred as a result of the plant shutdown.

Company's Responses/Actions

According to the Company, Spill No. 2 should not have happened. When the SCADA system notified the plant operator, the operator did not respond to the call. Although the disc filters were detected as being clogged, a visit to the PVWRF by the operator to reset the disc filter operation would have prevented this spill. For failure to respond to this call, the plant operator who did not respond to this incident was terminated.

For Spill No. 3, the UV equipment malfunction may have been caused by sabotage. The Company is currently investigating this incident. During this investigation, the Company also found that the coding in the SCADA dialing system had the number "9" (dial-out number) removed from the call-out number. As a result, the call-out was not reaching the plant operators' call numbers. The SCADA alarm system is currently being analyzed.

Due to the above possible sabotage and another incident (a person who appeared to be ready to climb the plant fence was seen and then fled), the Company has filed two police reports. The Company has also hired security personnel to patrol and check IDs before allowing visitors to enter the PVWRF property.

With the firing of one plant operator, the Company has also hired three new plant operators. Plant operators are now on-site at the PVWRF 24/7.

Commission Staff Notification

As a result of the June 2007 spills, Staff and the Company have implemented a reporting protocol for reporting accidents above and beyond what is required by Commission rules. According to the protocol, any future accidents will be reported by email and telephone calls to the Commission Consumer Service Section.

As for the fire incident on June 24th, Staff was properly notified of the fire incident as required by Commission rule. This Commission rule requires companies to report an incident if a serious injury is involved or if damage to company equipment above \$5,000 is sustained.

Equipment for Spills

According to the Company, the Company has no vacuum truck to clean up the spills. If spills do occur, the Company barricades and chlorinates the spill site and contacts a sewer cleaning specialist for clean-up, mainly using a vacuum truck. These specialists can respond to a site in the Company's CC&N within 30 minutes.

In addition to the above, the City also has a vacuum truck that assists in emergency responses, if needed.

Violation of Commission Rules and Orders

Staff reviewed Commission rules and prior Commission decisions and did not find that the incidences or LPSCO's subsequent action violated any Commission rule or decisions. In addition, Staff is not aware of any violation of ADEQ or MCESD rules.

Plant Capacity

The current PVWRF plant capacity is 4.1 million gallons per day ("MGD"). For 2007, the highest average monthly flow of 3.6 MGD occurred in July and the highest peak day flow of 4.8 MGD also occurred in July. In November 2006, a peak day flow of 4.55 MGD was measured. Due to this November peak flow, the Company contracted with McBride Engineering that same month to evaluate the PVWRF plant capacity for alternatives to increase the capacity. The alternatives included; 1) increasing the existing PVWRF plant capacity by 1.0 million gallons, 2) constructing a new 2.0 MGD plant three miles west of PVWRF, and 3) possible interconnection with the City of Goodyear. Another consultant, Water Works Engineering, was hired in March 2007 to evaluate the permitting, land acquisition, and conceptual design of a new plant site.

Based on the July 2007 flows, an average daily flow of 226 gallons per day ("GPD") per service lateral and peak day flow of 300 GPD per service lateral is calculated. Using these calculated flows, the 4.1 MGD PVWRF could serve approximately 18,140 service laterals and 13,670 service laterals, respectively. As of July 2007, the Company had 16,080 service laterals. Although it appears that the plant capacity has insufficient capacity for peak day flows, the Company's Hydraulic Analysis section below indicates the 4.1 MGD plant capacity is capable of handling a peak hourly flow of approximately 6.48 MGD. Based on this analysis, the operating conditions for the 4.1 MGD PVWRF are sufficient at this time along with the Company's current evaluation of additional plant capacity.

Odor Controls

McBride Engineering was also contracted to evaluate the odor issues and recommended that an Ionstein Ion Exchange System ("Ionstein") be installed which will reduce the load on the existing scrubbers. This odor control system is expected to be installed on September 26, 2007 and will be operating as a pilot test from October 1 to October 7. If the pilot test results are positive, the below Project 5 - Additional chemical scrubbing capacity, would likely be eliminated.

In a Company response letter, dated June 12, 2007, to Commissioner Mayes' letter, dated May 29, 2007, the Company provided an anticipated project schedule to address the odor control issues. In addition, Staff attended the Company's Community Liaison Committee ("CLC") meeting on September 6, 2007, that provided the below updated project schedule by McBride Engineering:

Projects	Anticipated Schedule (6-12-07)	Updated Schedule (9-6-07)
1. Granular activated carbon scrubber addition (Phase 1)	Implemented	Implemented
2. Influent odor control measures	Implemented	Implemented
3. Temporary centrifuge installation	August 2007	Implemented
4. Permanent centrifuge installation	December 2007	December 2007
5. Additional chemical scrubbing capacity (Phase 2)	December 2007	December 2007
6. Aeration blower capacity enhancement	Implemented	Implemented
7. Solids building temporary A/C units	June 2007	October 2007
8. Full-scale ion exchange system pilot	July 2007	September 2007
9. Solids building permanent A/C units	August 2007	(Included w/ #7)
10. Removal of sludge digestion process	December 2007	December 2007

Although the Company's schedule indicates some of the projects have not met the anticipated schedule dates, the Company is still on schedule in resolving the complete odor control issues by December 2007.

As an additional note, during the Company's CLC meeting, the Camelot Homes commercial customer who was in the audience, stated that he has not smelled any odors from the PVWRF for about a month.

Hydraulic Analysis

As a result of these recent spills, the Company retained Narasimhan Consulting Services in early July 2007 to evaluate the hydraulics of the PVWRF and the collection system. This study analyzed the operating conditions of the Company's flow capabilities and concluded that the PVWRF hydraulic capacity is fully capable of handling a peak hourly flow of approximately 4,500 GPM or 6.48 MGD.

ADEQ and MCESD Compliance

On August 7, 2007, Staff emailed the Arizona Department of Environmental Quality ("ADEQ") and Maricopa County Environmental Services Department ("MCESD") to inquire about the compliance status of the Company. These agencies indicated that the Company is currently in compliance with their regulations from the status reports received on August 8, 2007.

In addition to MCESD's response on August 8, 2007, MCESD provided additional information as discussed below. According to MCESD, the Company has submitted a project involving a series of upgrades to the PVWRF. This new project is being done in a number of phases and breaks down as follows:

- Phase 1: Odor Control Upgrades (Pilot Testing)
- Phase 2: UV Disinfection System Upgrades
- Phase 3: Temporary Centrifuge System Upgrades
- Phase 4: Influent Screening Upgrades
- Phase 5: Tertiary Treatment Pump Stations Upgrades
- Phase 6: Solids Handling Upgrades
- Phase 7: Conversion of Digesters to Sequencing Batch Reactors
- Phase 8: Headworks Building Upgrades
- Phase 9: Solids Handling Building Upgrades
- Phase 10: Equalization Basin to Headworks Recycle Line

Construction of Phases 1, 2 and 3 were approved by the MCESD in July 2007 and the work is currently in progress. Phase 10 is currently operating using a temporary line and the construction of the permanent line is under construction. The other phases are scheduled to be submitted in the next 2 - 3 months for review. Most of the work being performed in Phases 1 - 10 is to increase reliability and add redundancy to the plant. It should be noted that the plant's treatment capacity is not being increased by these improvements.

Phase 1 is for pilot testing of a new ionization odor control system that would treat air in the buildings at the plant. It will not replace the wet/dry odor scrubbers that treat air from the process basins and at this point in time is considered to be an experimental system that is being evaluated via pilot testing.

Phase 2 is for a replacement UV Disinfection System since the old system is obsolete. Phase 3 is for a temporary centrifuge system to assist/replace the existing centrifuge system for approximately nine months until a new permanent centrifuge system can be installed under Phase 6.

Phase 10 will allow recycling of the influent water to the filters back to the headworks. This change is being implemented in response to the June 2007 wastewater spill which was caused by grease and oil getting past the sequencing batch reactors ("SBRs") and clogging the disc filters. The plant will now be able to recycle the wastewater from the SBRs back to the headworks which will allow the SBRs to reprocess this off-spec wastewater and hopefully prevent the filters from being clogged if this type of event reoccurs.

Phases 4 - 9 have not yet been submitted to the MCESD so details are preliminary and subject to change. Phase 7 is probably the most significant phase since two existing digesters at the plant will be converted to SBRs. This change will effectively double the number of SBRs at the plant from 2 to 4 which should help to increase operational reliability.

Complaint filings with the City

Staff has contacted the City to determine if any customers have filed any complaints with City. According to the City, there have been no complaints filed with the City.

Conclusion

Based on Staff's investigation, an enforcement action is not warranted at this time. Staff determined that there has been no violation of any Commission order or rule committed by the Company. Staff contacted other regulatory agencies to determine if there had been any other regulatory violation. MCESD indicated that the Company was in compliance, as well as ADEQ. Staff's investigation showed that in response to the spills, the Company took appropriate remedial action and has developed a reasonable plan to prevent such reoccurrences. Further, the investigation revealed that the Company has submitted plans to MCESD to upgrade the PVWRF. The Company has previously submitted its plan to address its odor problem. The Company appears to be active in addressing both its capacity and odor issues.

However, the fact remains that there were three spills in the span of three days, and as such, warrants a closer review of the Company and its operational practices. To that end, and pursuant to the authority granted by ARS Section 40-361 (B), Staff recommends the opening of a special docket. The purpose of this docket would be to continue to monitor and gather data concerning the operational practices of the Company and to stay apprised of any operational issues that could threaten public health and safety and/or violate Commission rules or relevant statutes.

EGJ:MSJ:llm

Attachment: Company's July 19, 2007 Report to ADEQ

**LITCHFIELD PARK SERVICE COMPANY
DOCKET NOS. SW-01428A-09-0103 AND W-01427A-09-0104
RESPONSE TO RUCO'S FIFTH SET OF DATA REQUESTS**

October 13, 2009

Response provided by: Greg Sorensen

Title: Director of Operations

Company Name: Liberty Water

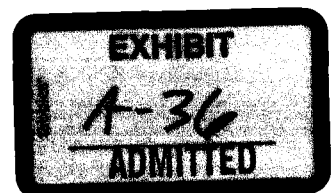
Address: 12725 W Indian School Rd D-101
Avondale, AZ 85392

Company Response Number: MJR 5.4

Q. Please provide the actual Total Monthly Sewage Flow and Sewage Flow on Peak Day for the months in 2009 where that data is available.

OBJECTION: The Commission uses a historical test year with pro forma adjustments based on known and measurable changes. Therefore, LPSCO fails to see how its plans for future capacity expansions, if any, are calculated to lead to the discovery of admissible evidence in this proceeding.

RESPONSE: Notwithstanding its objection, please refer to the attached spreadsheet which shows monthly average day flows and peak day flows since the end of the test year (Oct 08 – Sept 09) and % of 4.1MGD capacity.



PVWWTP Flow (expressed in MGD) Since Test Year

INF mag meter

	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
AVG MGD for Month	3.360	3.495	3.383	3.058	3.463	3.428	3.398	3.237	3.120	3.059	3.172	3.258
Peak Day Flow	4.158	3.881	4.136	3.807	3.886	3.848	4.312	3.696	3.807	3.437	3.522	3.753

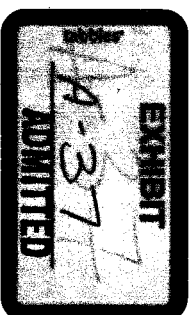
% Capacity	82.0%	85.2%	82.5%	74.6%	84.5%	83.6%	82.9%	79.0%	76.1%	74.6%	77.4%	79.5%
Maximum Month		85.2%										

Litchfield Park Service Company - Water Division
Test Year Ended September 30, 2008
Cost of Service Study, Using Commodity Demand Method
Returns at Proposed Rates
Analysis of Staff Proposed Rates and Charges

Attachment

+JBRJ3

Line	No.	Meter Size->	Total	5/8" x 3/4"	3/4"	1"	1 1/2"	2"	Hydrant	4"	6"	10"
1	1	Water Revenues	\$ 11,637,449	\$ 58,840	\$ 3,133,900	\$ 3,833,358	\$ 518,769	\$ 2,711,896	\$ 93,851	\$ 374,833	\$ 876,198	\$ 35,805
2	2	Revenue Amortizations	42,039	2,102	(12,403)	(11,478)	15,053	26,949	1,716	20,101	-	-
3	3	Misc. Revenues ¹	127,522	1,793	74,129	44,936	1,490	4,789	188	172	16	8
4	4	Reconciliation H-1 to C-1 ¹	(25,699)	(361)	(14,939)	(9,056)	(300)	(965)	(38)	(35)	(3)	(2)
5	5	Total Revenues	\$ 11,781,311	\$ 62,374	\$ 3,180,887	\$ 3,857,780	\$ 535,011	\$ 2,742,669	\$ 95,717	\$ 395,071	\$ 876,209	\$ 35,812
6	6											
7	7	Operating Expenses ²	\$ 4,208,556	\$ 31,377	\$ 1,693,441	\$ 1,394,168	\$ 132,056	\$ 663,341	\$ 25,249	\$ 87,128	\$ 172,665	\$ 8,131
8	8	Depreciation and										
9	9	Amortization ²	2,224,110	15,800	926,963	845,765	54,252	315,106	12,956	32,325	14,994	5,947
10	10	Property Tax ³	338,453	1,792	91,375	110,826	15,370	78,791	2,750	11,350	25,172	1,029
11	11	Income Tax ⁴	1,776,041	3,985	111,931	518,793	125,127	632,031	20,398	100,152	256,469	7,155
12	12	Total Operating Expenses	\$ 8,547,160	\$ 52,955	\$ 2,823,710	\$ 2,869,551	\$ 326,804	\$ 1,688,269	\$ 61,353	\$ 230,954	\$ 469,300	\$ 23,263
13	13	Operating Income	\$ 3,234,151	\$ 9,419	\$ 356,977	\$ 888,208	\$ 208,207	\$ 1,053,399	\$ 34,365	\$ 164,117	\$ 406,908	\$ 12,548
14	14	Interest Expense ⁵	432,493	3,131	180,409	169,827	10,823	56,386	2,187	6,131	2,336	1,262
15	15	Net Income	\$ 2,801,659	\$ 6,288	\$ 176,568	\$ 818,382	\$ 187,384	\$ 997,013	\$ 32,177	\$ 157,986	\$ 404,574	\$ 11,287
16	16	Rate Base ⁶	\$ 37,174,137	\$ 269,002	\$ 15,487,936	\$ 14,588,871	\$ 929,719	\$ 4,843,844	\$ 187,915	\$ 526,644	\$ 200,656	\$ 108,452
17	17	Return on Rate Base ⁷	6.70%	3.50%	2.30%	6.77%	22.39%	21.75%	18.29%	31.16%	202.79%	11.57%
18	18											
19	19	Percent of Total Customers		1.406%	58.131%	35.239%	1.168%	3.756%	0.148%	0.135%	0.013%	0.006%
20	20											
21	21											
22	22	¹ Allocated based on customer counts.										
23	23	² Operating Expenses and Depreciation computations are shown on Schedule G-4, Page 1.										
24	24	³ Property Taxes allocation based on Revenues										
25	25	⁴ Income Tax from Schedule C-1, at Proposed Rates. Income Taxes allocated based on taxable income										
26	26	⁵ Interest Synchronized Interest Expense. Allocation based on Rate Base										
27	27	⁶ Rate Base computations are shown on Schedule G-3, Page 1										
28	28	⁷ Operating Income Divided by Rate Base										
29	29	⁸ 8 inch customer expected to leave system. See testimony of Greg Sorenson.										



Ray L. Jones P.E.
Principal
ARICOR Water Solutions, LC
25213 N. 49th Drive
Phoenix, Arizona 85083

EMPLOYMENT HISTORY

2004 – Present

ARICOR Water Solutions

Principal

ARICOR Water Solutions offers a wide range of services to the private and public sectors. Projects include water resources strategy development, water rights evaluation and development of regulatory strategies. Services also include consultation on water and wastewater utility formation, management and operations, and valuation, including due diligence analysis and preparation of financial schedules and testimony in support of CC&N, Rate Case and other filings before the Arizona Corporation Commission. ARICOR Water Solutions provides water, wastewater and water resource master planning, water and wastewater facilities design, and owner representation; including value engineering, program management and construction oversight. Lastly, ARICOR Water Solutions supports water solutions with contract operations and expert witness testimony and litigation support.

2002 to 2004

Arizona-American Water Company

President

Responsible for leadership of the Arizona business activities of Arizona-American Water Company. Key responsibilities include developing and evaluation new business opportunities, developing strategic plans, establishing effective government and community relations, insuring compliance with all regulatory requirements, and providing management and guidance to key operations and support personnel.

1998 to 2002

Citizens Water Resources, Arizona Operations

Vice President and General Manager

Responsible for leadership of the Arizona regulated and unregulated business activities of Citizens Water Resources. Key responsibilities included developing and evaluation new business opportunities, developing strategic plans, establishing effective government and community relations, insuring compliance with all regulatory requirements, and providing management and guidance to key operations and support personnel.

1990 to 1998

Citizens Water Resources, Arizona Operations

Engineering and Development Services Manager

Responsible for management of a diverse group of business growth related activities. Responsibilities include: marketing of operation and maintenance services (unregulated business growth), management of new development activity (regulated business growth), management of engineering functions (infrastructure planning and construction), management of water resources planning and compliance, management of growth-related regulatory functions (CC&N's and Franchises), and management of capital budgeting functions and capital accounting functions.

1985 to 1990

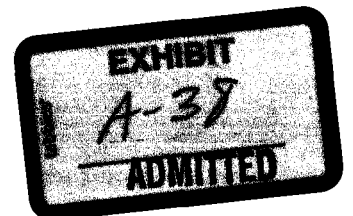
Citizens Water Resources, Arizona Operations

Civil Engineer

Responsible for the planning, coordination and supervision of capital expansion and major maintenance and rehabilitation projects as assigned. Responsible for development of capital program for Maricopa County Operations.

EDUCATION

Arizona State University – Master of Business Administration (1991)
University of Kansas – Bachelor of Science in Civil Engineering (1985)



PROFESSIONAL CERTIFICATION

Registered Professional Engineer – Civil Engineering – Arizona
Professional Engineer – Civil Engineering – California
Certified Operator – Wastewater Treatment, Wastewater Collection, Water Treatment, Water Distribution – Arizona

PROFESSIONAL AFFILIATIONS

- Director - Water Utilities Association of Arizona (1998 – 2004)
- Member - American Society of Professional Engineers
- Member - American Water Works Association
- Member - Arizona Water Pollution Control Association
- Member - Water Environment Federation

CIVIC AND COMMUNITY INVOLVEMENT

- Chairman WESTMARC (2008)
- Director and Member of the Executive Committee- WESTMARC (1998 – Present)
- Co-Chairman, WESTMARC Water Committee (2006 – 2007)
- Chairman-Elect WESTMARC (2007)
- Member – Corporate Contributions Committee, West Valley Fine Arts Council Diamond Ball (Chairman 2005)
- Member – Technical Advisory Committee – Governor's Water Management Commission (2001)
- Board Member, Manager & Past Chairman – North Valley Little League Softball

REGULATORY EXPERIENCE

Testimony has been provided before the Arizona Corporation Commission in the dockets listed below. Unless otherwise indicated testimony was provided on behalf of the utility.

Filing Year	Utility(ies)	Filing Type(s)	Docket(s)
1992	Sun City West Utilities Company	CC&N Extension (Expansion of Sun City West)	U-2334-92-244
1993	Sun City Water Company Sun City Sewer Company	CC&N Extension (Addition of Coyote Lakes)	U-1656-93-060 U-2276-93-060
1993	Tubac Valley Water Co., Inc.	CC&N Extension (Various Subdivisions on western border)	U-1595-93-241
1993	Sun City West Utilities Company	CC&N Extension (Expansion of Sun City West)	U-2334-93-293
1995	Citizens Utilities Company Sun City Water Company Sun City Sewer Company Sun City West Utilities Company Tubac Valley Water Company	Ratemaking	E-1032-95-417 U-1656-95-417 U-2276-95-417 U-2334-95-417 U-1595-95-417
1996	City Water Company Sun City Sewer Company	CC&N Extension (Acquisition of Youngtown)	U-1656-96-282 U-2276-96-282
1996	Citizens Utilities Company	CC&N Extension and Deletion (Realignment of Surprise Bdry.)	E-1032-96-518
1998	Sun City Water Company Sun City West Utilities Company	CAP Water Plan and Accounting Order (Sun Cities CAP plan)	W-01656A-98-0577 SW-02334A-98-0577
2000	Citizens Water Resources Company of Arizona Citizens Water Services Company of Arizona	CC&N Extension and Accounting Order (Anthen Jacka Property and Phoenix Treatment Agreement)	SW-3455-00-1022 SW-3454-00-1022

Filing Year	Utility(ies)	Filing Type(s)	Docket(s)
2000	Citizens Communications Company Citizens Water Services Company of Arizona	CC&N Extension and Approval of Hook-Up Fee (Verrado)	W-0132B-00-1043 SW-0354A-00-1043
2002	Arizona-American Water Company	Ratemaking	WS-01303A-02-0867 WS-01303A-02-0868 WS-01303A-02-0869 WS-01303A-02-0870 WS-01303A-02-0908
2004	Arizona-American Water Company Rancho Cabrillo Water Company Rancho Cabrillo Sewer Company	CC&N Transfer	WS-01303A-04-0089 W-01303A-04-0089 SW-03898A-04-0089
2004	Johnson Utilities Company, LLC (Representing Pulte Home Corporation)	CC&N Extension	WS-02987A-04-0288
2005	Perkins Mountain Utility Company Perkins Mountain Water Company	New CC&N & Initial Rates	WS-20379A-05-0489 W-20380A-05-0490
2005	West End Water Company	CC&N Extension	W-01157A-05-706
2005	Arizona-American Water Company	Approvals Associated with Construction of Surface Water Treatment Facility	W-01303A-05-0718
2006	Arizona-American Water Company	Ratemaking	WS-01303A-06-0403
2008	Sunrise Water Company	Ratemaking	W-02069A-08-0406
2009	Baca Float Water Company	Ratemaking	WS-01678A-09-0376
2009	Aubrey Water Company	Lost Water Evaluation (Rate Case Compliance)	W-03476A-06-0425
2009	White Horse Ranch Owner's Assn.	Ratemaking	W-04161A-09-0471

Litchfield Park Service Company
 Estimate of retirement costs related to PVWRF upgrades
 and impact on rate base and revenue requirement

<u>Description¹</u>	<u>NARUC</u>	<u>NARUC Description</u>	<u>2002</u>
<u>Head Works Screens</u>	<u>354</u>	<u>Structures and Improvements</u>	<u>Cost</u>
<u>UV Screens</u> Electrical Work	<u>354</u>	<u>Structures and Improvements</u>	<u>\$ 51,680</u>
<u>Electrical Work</u>	<u>354</u>	<u>Structures and Improvements</u>	<u>147,521</u>
			<u>14,570</u>
Total Retirement Cost			<u>\$ 213,771</u>

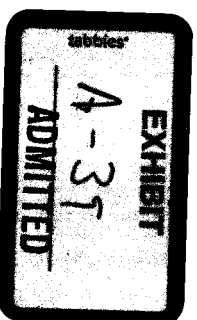
<u>Impact on Rate Base and Return</u>	
<u>Plant-In-Service</u>	<u>\$ (213,771)</u>
<u>Accumulated Depreciation</u>	<u>213,771</u>
<u>Total</u>	<u>\$ -</u>
<u>Return (WACC)</u>	<u>11%</u>
<u>Total Return</u>	<u>\$ -</u>

<u>Impact on Annual Depreciation</u>	
<u>Cost removed from Plant-In-Service</u>	<u>\$ (213,771)</u>
<u>Depreciation rate</u>	<u>3.33%</u>
<u>Reduction in Depreciation Expense</u>	<u>\$ (7,119)</u>

<u>Impact on revenue requirement</u>	
<u>Return \$'s</u>	<u>\$ -</u>
<u>Depreciation Expense</u>	<u>(7,119)</u>
<u>Total impact on revenue requirement</u>	<u>\$ (7,119)</u>

¹ Details of Retirement Cost

	<u>Number</u>	<u>2002 Cost</u>	<u>Installation</u>	<u>2002</u>					
<u>Head Works Screens</u>	<u>1</u>	<u>\$ 48,180</u>	<u>\$ 3,500</u>	<u>\$ 51,680</u>					
	<u>Number</u>	<u>2008 Cost</u>	<u>Installation</u>	<u>Total Cost</u>	<u>Vintage</u>	<u>Handy-Whitman</u>	<u>Handy-Whitman</u>	<u>Handy-Whitman</u>	<u>Reverse Trend:</u>
<u>UV Screens</u>	<u>3 ea</u>	<u>\$ 192,000</u>	<u>\$ 10,500</u>	<u>\$ 202,500</u>	<u>Year</u>	<u>Account</u>	<u>2002 Index</u>	<u>2008 Index</u>	<u>2002</u>
<u>Electrical Work (estimate)</u>				<u>\$ 20,000</u>	<u>2002</u>	<u>304</u>	<u>365</u>	<u>501</u>	<u>Cost</u>
								<u>Factor</u>	<u>2002</u>
								<u>0.7285</u>	<u>Cost</u>
									<u>\$ 147,521</u>
									<u>\$ 14,570</u>



Litchfield Park Service Company
 Rate Phase-in -- **DRIFT**
 For discussion purposes only

Assumptions

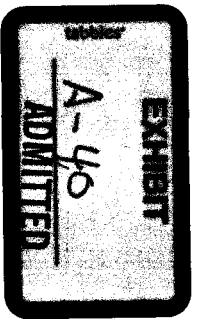
Rate	\$42	Year 1 Increase	80%
Starting Point	80%	Year 2 Increase	100%
WACC	11.00%	Year 3 Increase	129%

	Yr 1 Collected	Yr 1 Uncollected	Yr 1 Interest	Year 2 Collected	Yr 2 Uncollected	Yr 2 Interest	Year 3 Collected
Month 1	\$ 33.60	\$ 8.40	\$ 0.08	\$42.00	\$ 106.04	0.98	\$54.02
Month 2	\$ 33.60	\$ 16.88	\$ 0.15	\$42.00	\$ 107.02	0.99	\$54.02
Month 3	\$ 33.60	\$ 25.43	\$ 0.23	\$42.00	\$ 108.01	1.00	\$54.02
Month 4	\$ 33.60	\$ 34.06	\$ 0.31	\$42.00	\$ 109.01	1.01	\$54.02
Month 5	\$ 33.60	\$ 42.78	\$ 0.39	\$42.00	\$ 110.02	1.02	\$54.02
Month 6	\$ 33.60	\$ 51.57	\$ 0.47	\$42.00	\$ 111.04	1.03	\$54.02
Month 7	\$ 33.60	\$ 60.44	\$ 0.55	\$42.00	\$ 112.06	1.04	\$54.02
Month 8	\$ 33.60	\$ 69.40	\$ 0.64	\$42.00	\$ 113.10	1.05	\$54.02
Month 9	\$ 33.60	\$ 78.43	\$ 0.72	\$42.00	\$ 114.15	1.06	\$54.02
Month 10	\$ 33.60	\$ 87.55	\$ 0.80	\$42.00	\$ 115.20	1.07	\$54.02
Month 11	\$ 33.60	\$ 96.75	\$ 0.89	\$42.00	\$ 116.27	1.08	\$54.02
Month 12	\$ 33.60	\$ 106.04	\$ 0.97	\$42.00	\$ 117.34	1.09	\$54.02

Total Uncollected	\$ 106.04	
Total Carrying Costs	\$ 6.21	\$ 117.34
		12.39

Total Additional Needed to be recovered in year 3	\$ 135.95
Monthly rider required	\$12.02

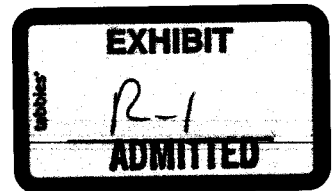
Total Collected at 100% for 3 years	\$ 1,512.00
Total Collected new rate design	\$ 1,555.38
Total Carrying Costs	\$ 43.38





McBride Engineering Solutions
6100 W. Gila Springs Pl Ste 7
Chandler, AZ 85226

Phone # 480-759-9608
Fax # 480-706-1106
bmcbride@mcbrideengineering.net



Invoice

Date	Invoice #
11/5/2008	0711-20

NOV 18 2008

RECEIVED

Bill To

Algonquin Water Services
Tom Nichols
12725 W. Indian School Road,
Suite D 101
Avondale, AZ 85323

Project Name	0711 LIPSCO Palm Valley WRF Improvements
--------------	--

P.O. No.	0711 (Algonquin TO#13)
Contract Type	T&M NTE

Service Date	Item	Description	HRS/AMT	Rate	Amount
10/4/2008	Eng. Services A	Principal - Brian McBride	30	150.00	4,500.00
	Eng. Services B	PM - Matt Andros	24	140.00	3,360.00
	Eng. Services A	Engineering - Tim LeClair	80	100.00	8,000.00
	Administration	Project Administrative Services	4	48.00	192.00
	CADD Services	CADD Drafting Services	0	88.00	0.00
	Subconsultant	WME - Programming Subconsultant	1	2,145.92	2,145.92
	Subconsultant	Jensen - Electrical Subconsultant	1	4,875.00	4,875.00
	Local Travel	Travel incurred for project	490	0.585	286.65
	Delivery	Delivery or Postage Expense	1	99.68	99.68
10/31/2008					
Total Invoice Period					\$23,459.25
Total Budget					\$955,000
Total Project to Date					\$950,459

Balance Due This Invoice	\$23,459.25
--------------------------	-------------

11/18/08

APPLICATION AND CERTIFICATE FOR PAYMENT

TO (OWNER): Lichfield Park Service Company
12725 W. Indian School Road, Suite D 101
Avondale, AZ 85323

FROM: D.L. Norton General Contracting, Inc.
7730 E. Evans Road
Scottsdale, AZ 85260

Project: Lichfield Park Service Company
Palm Valley WRF Modifications
Pay Estimate No. 11
REVISION #1

Via (Engineer): McBride Engineering Solutions
7305 W Boston St
Chandler, AZ 85226

31-Aug-08

Engineers
Project No:

Contract Date: 11-Jul-07

CONTRACT FOR: Palm Valley WRF Modifications

CONTRACTOR'S APPLICATION FOR PAYMENT

Change Order Summary	ADDITIONS	DEDUCTIONS
Change Orders approved in: Previous months by Owner		
Approved this Month:		
Work Authorization 1	\$478,750	
Work Authorization 2	\$2,783,281	
Adjust to GMP		
Work Authorizations	\$407,442	
TOTAL		51
31-Jul-07		
9-Jan-08		
Net Change by Change Orders	\$3,879,473	\$51

Application is made for Payment, as shown below, in connection with the Contract

Continuation Sheet is attached.

1. Original Contract Sum
2. Net change by Change Orders
3. Contract Sum to date (Line 1 + 2)
4. Total Completed & Stored to Date
5. Retainage:
 - a. 5% of Completed Work
 - b. 5% of Stored Material

283,971.10
0.00

Total Retainage (Line 5a + 5b or Total in Column I)

Total Earned Less Retainage (Line 4 less Line 5 Total)

Less Previous Certificates For Payment (Line 6 from prior Certification)

Current Payment Due (Line 6 from prior Certification)

Balance to finish, including Retainage (Line 3 less Line 6)

\$ 283,971.10
\$ 5,395,450.90
\$ 4,833,428.52
\$ 762,022.35
\$ 283,971.10

The undersigned Contractor certifies that to the best of the Contractor's knowledge information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payments shown herein is now due.

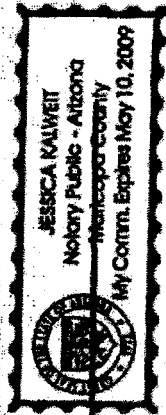
By: 
General Contractor

Date: 10/13/2008

State of: Arizona
Subscribed and sworn to before me this

County of: Maricopa
day of Oct 2008

Notary Public: 
My Commission expires: May 10, 2009



8600-20007-000704

10/16/08

Robert Danks vct 2008

[illegible]

Litchfield Park Sewer Company
Water Reclamation Facilities Strategic Planning
Evaluation Report

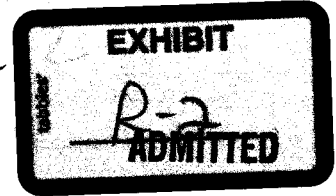


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APPENDICES

Appendix A Odor Control Volume Calculations

Appendix B SBR Capacity Calculations for Converted Digester Tanks

Litchfield Park Sewer Company
Water Reclamation Facilities Strategic Planning
Evaluation Report

1.0 INTRODUCTION

Algonquin Water retained McBride Engineering Solutions, Inc. (MES) to conduct a study to review the existing and planned water reclamation facilities (WRFs) in their Litchfield Park Service Company (LPSCO) service area and to develop a list of strategic options that Algonquin might consider to achieve their treatment, operations, and redundant capacity goals for these facilities. This report is intended to describe the investigations of the current conditions and summarize the findings and recommendations of the study.

Algonquin currently owns and operates the Palm Valley Water Reclamation Facility (WRF) in its Litchfield Park service area. This facility, which utilizes a sequential batch reactor (SBR) treatment technology, is rated for a treatment capacity of 4.1 mgd with a planned ultimate capacity of 8.2 mgd. In addition, to meet the future needs of the growing community within the service area, there are plans to construct a second facility to be called the Sarival Water Reclamation Facility. Like the Palm Valley WRF, the Sarival WRF is planned to have an initial capacity of 4.1 mgd with an ultimate capacity of 8.2 mgd. At present there is a lift station at Sarival Road that pumps the wastewater from that service area to the Palm Valley WRF.

According to Algonquin's own managers, engineers, and operators, the existing Palm Valley WRF has numerous operational shortcomings that need to be addressed. These include hydraulic issues, redundant capacity shortfalls, odor control problems, process control difficulties, equipment reliability concerns, trouble-shooting limitations, excessive maintenance requirements, and a lack of operational flexibility, among others. In addition, it is expected that the current rated capacity of the plant will be exceeded within one year.

It is apparent that the challenges facing Algonquin in regard to the LPSCO facilities are diverse and numerous. Some will require short-term attention while others will require longer term planning consideration. However, to achieve the treatment, operations, and redundant capacity goals for these facilities an overall strategy will be required that prioritizes action items, accounts for future needs, and considers a range of problem-solving options, including less conventional ones. This study was

conducted to assist Algonquin in developing a sound strategy by investigating the current condition and proposing a range of options that would focus on solutions.

2.0 BACKGROUND

The facilities currently operated by LPSCO include the Palm Valley WRF and the Sarival Lift Station. The Palm Valley WRF was planned to be built in two phases with a capacity of 4.1 mgd each. The Sarival Lift Station has a capacity of approximately 1 and conveys sewage to the Palm Valley WRF. Like the Palm Valley WRF, the future Sarival WRF is planned to be built in two phases of 4.1 mgd each.

The following subsections describe the capabilities and equipment of the existing Palm Valley WRF and the Sarival Lift Station.

2.1 Palm Valley WRF

The Palm Valley Water Reclamation Facility (WRF) is wastewater treatment plant that utilizes a sequential batch reactor (SBR) technology. It is designed to produce ARS Title 18 "Class A-plus" quality effluent for various reuse applications. The rated treatment capacity for the plant is 4.1 million gallons per day (mgd) on an average-day-peak-month basis and 11.1 mgd on a peak-flow basis. The present treatment train consists of the following liquid-stream processes and equipment:

- ◆ Influent Meter Station – located near Manhole No. 2 upstream of the plant
- ◆ Influent Pump Station – consisting of three 5.55-mgd submersible pumps in a 39-foot deep wetwell that is common-walled with the Anoxic Reactor
- ◆ Mechanical Screening – utilizing two auger screens with 6-millimeter perforated openings
- ◆ Grit Removal – through one 12-foot diameter vortex-type steel settling tank with grit washer
- ◆ Anoxic Reactor – a 589,000-gallon tank with air-liquid jet mixing, three 7.9-mgd submersible transfer pumps and one 7.9-mgd submersible jet-motive pump; designed with approximately 295,000 gallons of equalization capacity
- ◆ Sequential Batch Reactors – consisting of two 1.6-MG reactor tanks with air-liquid jet mixing, fixed-level decanters, a common flow-return trough, and four submersible jet-motive pumps each
- ◆ Process Air System – utilizing eight 100-horsepower constant-speed rotary blowers; two for the secondary treatment system with a capacity of 1,500 cfm each at 11 psig, and three for the sludge digestion tanks with a capacity of 2,000 cfm each at 8.5 psig

- ◆ Post-Equalization – through a serpentine-baffled surge tank with approximately 245,000 gallons of equalization capacity and two VFD-equipped vertical turbine filter feed pumps with a capacity of 8.2-mgd each
- ◆ Tertiary Filters – utilizing three trains of cloth-media disk filters
- ◆ Post-Filtration Storage – Clear well tank with approximately 175,000 gallons of equalization capacity and three VFD-equipped vertical turbine effluent discharge (UV feed) pumps with a capacity of 4.1-mgd each
- ◆ Tablet Chlorination System – (presumably) for pre-treatment of the UV system influent
- ◆ Ultra-Violet (UV) Disinfection – consisting of seven in-line medium pressure UV reactors with a capacity of 1.44 mgd each
- ◆ Effluent Metering – utilizing a non-invasive external electronic flow meter on the 24-inch effluent line

The solids handling system for the facility includes the following:

- ◆ WAS Metering – a Doppler-style external meter on the 8-inch thickener feed line
- ◆ Sludge Thickening – utilizing two rotary-drum thickeners with a capacity of 325 gpm each at 0.25 percent solids
- ◆ Sludge Dewatering – consisting of one decanting centrifuge with a capacity of 90 gpm at 3 percent solids, a screw pump, and two 20-cubic-yard roll-off containers

The odor control system for the facility includes the following:

- ◆ One 10,000 cfm multi-stage chemical scrubber for the Headworks Building and Anoxic Basin
- ◆ One 6,000-cfm multi-stage chemical scrubber for the Solids Dewatering Building and ATAD Basins
- ◆ One 16,000-cfm granular activated carbon (GAC) packed-bed filter (now under construction), designed in series with the scrubbers to polish the exhaust from both

2.2 Sarival Lift Station

The Sarival Lift Station is a wastewater pumping facility that was designed to convey sewage to the Palm Valley WRF. MES had been unable to determine the capacity or hydraulic characteristics of the pumps that were installed.

2.3 Sarival WRF (Planned)

The Sarival WRF will be the second wastewater facility treating flows from the LPSCO service area. Like the Palm Valley WRF, the Sarival WRF is expected to be an SBR facility and is planned to have an initial capacity of 4.1 mgd with an ultimate capacity of 8.2 mgd.

3.0 CHALLENGE AREAS AT PALM VALLEY WRF

To identify challenge areas for the Palm Valley WRF, MES reviewed the design documents, process and capacity studies, and operations information for the plant, conducted interviews with the Algonquin engineers, managers, and operations staff, talked to previous engineers and employees familiar with the history of the facilities, and consulted with manufacturers and process equipment experts. While none of the challenges presented below appear to be preventing the successful operation of the facility, they do show target areas where improvements could be made to enhance the overall operation, reliability, and cost effectiveness of the plant. The following subsections provide a summary of the challenge areas identified for the facility.

3.1 Headworks and Influent Systems

According to the Algonquin staff and a review of the design, there are a number of challenges with the Headworks and Influent systems for the facility. The following paragraphs describe some of these challenges.

3.1.1 Lack of Influent Flow Equalization

Regarding the influent system, there is no flow equalization upstream of the influent pump station. Therefore when the SBR system is not ready to take a new batch, equalization must occur in the collection system, potentially resulting in sewer surcharging during peak flows. In addition, this condition restricts the flexibility of the operations staff to extend batch cycles if the process is not performing optimally.

3.1.2 Influent Metering and Sampling Locations

Another challenge with the influent system is that the current location of the influent meter is upstream of the influent pump station wetwell, while the influent sampling point (for BOD, TSS, etc.) is downstream of the influent pump station, and the return flows from the filter backwash, filter sludge, and dewatering centrate are in between. This means that the measured influent flows do not contain the return flows yet the loading concentrations (from the sampling) include the contribution of the return streams. This configuration makes it very difficult to measure or calculate the actual influent loading or the loading to the biological system. According to Algonquin staff they are currently planning to install

a new flow meter downstream of the influent pump station, and this solution should alleviate the situation considerably.

3.1.3 Blinding and Solids Bypassing of the Influent Screening Process

The first treatment process after the influent pump station is influent screening. According to Algonquin staff the 6-millimeter auger screens have been problematic for a number of reasons. First, the brushes on the auger that are designed to clean the screens have had wear issues and are very difficult and time consuming to replace; second, the augers tend to bind when large solids get into the screen; and third whenever the brushes are worn or the augers bind, the screens tend to blind or clog. When the screens blind or clog (either partially or fully) the wastewater is able to flow over the rubber shroud and significant flows of unscreened wastewater can bypass the process. Because there is no grinder or comminuter upstream of the screens, the solids that get into the secondary process can be quite large.

Apparently since these screens have been in operation there has been a significant amount of bypassing of unscreened wastewater, resulting in large solids and debris entering the SBR process with no way to remove it. This is especially problematic because large solids can easily clog the jet-mixing nozzles, and there is at least some evidence of clogging in all of the process basins. It also appears that the solid material in the process basins may be a contributing factor to the impeller wear issues for the submersible motive pumps.

3.1.4 Fats Oils and Grease (FOGs)

There is currently no process or means for reducing or removing fats, oils and grease (FOGs) in the headworks or anywhere else in the facility treatment train. This is a problem because FOGs can cause foaming, increase odor problems, reduce the efficiency of (or even blind) the tertiary filters, and create performance problems in the UV disinfection system. Based on operator input each one of these problems has been experienced at the plant.

3.1.5 Moisture and Corrosives Passing through Open Grating in Headworks Room

The Headworks Building was constructed with open grating over a 107x4-foot opening in the floor of the room right above the process basins. Due to the process air flow and the configuration of the odor control system, the air from the process tanks is drawn directly into the headworks room. The moisture and corrosive constituents in the air have had an obviously detrimental affect on the equipment in the headworks room, not to mention creating an uncomfortable working environment for the operators.

This condition is made worse by the fact that the electrical equipment in the room is apparently not NFPA Class 1 – Division 1 and as a result the equipment has experienced notable deterioration, and according to the operators multiple failures have occurred. The Algonquin staff has taken measures to

improve the condition, including using checker plating and foam sealant to try to block the opening. In addition, plans have been made to relocate all the critical electrical equipment outside of the headworks room. However, it does not appear that these measures will completely alleviate the problem.

3.2 Secondary Treatment System

The secondary treatment system includes the Anoxic Reactor, the SBR Basins, and the Process Air Blowers. The challenges identified with these systems are as follows:

3.2.1 Sludge Wasting from Anoxic Reactor

The plant was designed and constructed to waste sludge (WAS) from the bottom of the Anoxic Reactor. However, because the Anoxic Reactor received the initial influent flows, the operations staff found that the WAS stream contained a significant amount of raw wastewater with a very high volatile component. This resulted in high odors, inefficient thickening, and stress on the aerobic digestion process. To counter this problem, the wasting system was reconfigured by Algonquin to draw from the SBR basins, and it appears that this solution has improved the process.

3.2.2 Clogging of Jet-Mixer Nozzles with No Back-Flush Capability

As a result of flow bypassing the influent screens, it appears that a significant amount of large solids and debris has been introduced into the process basins. Once in the process basins, the large solids can be drawn through the motive pumps and conveyed into the jet-aeration headers. The nozzle openings for the jet-aeration headers are small enough to be clogged by large solids in the mixed liquor, reducing mixing/aeration capacity and straining the motive pumps. Based on field observation by the operations staff and MES, it appears that significant clogging has occurred, especially in the Anoxic Reactor.

In many jet-aeration-type biological systems there is some way to back-flush the nozzles to remove clogged material. This is usually done through either an air-lift pipe that uses the process air to reverse the flow through the nozzles, or a dedicated pump that is used to draw flow (and often WAS) back through the header. In the Palm Valley system, however, the pump and piping configuration provides no means for back-flushing.

3.2.3 Constant Speed Blowers and DO Control

There are eight constant speed process blowers in the plant with no variable adjustment or inlet control valves. Five blowers, located in the blower room adjacent to the headworks, are dedicated for the secondary treatment process air; the remaining three blowers, located in the solids dewatering room, are for the digesters. According to the operations staff, the only way to control the total amount of air flow is to turn the blowers on and off (manually or on timers), and the only way to control the individual air

flow to any of the process basins is through modulating or manual valves on the headers to each tank. Any adjustments made to control dissolved oxygen (DO) levels must be done manually.

The manual controls and lack of flexibility is a challenge for the plant because it restricts the ability to optimize the biological performance through control of the oxygen levels. In addition, inefficient on-off cycles of the air flow can create more odors than would otherwise be produced, and almost certainly results in significantly higher power costs.

3.2.4 Fixed Decaners Passing Solids and Floatable Material

The SBR tanks are equipped with fixed decaners that draw the supernatant out of the tank until the water level falls below the decanter openings. According to Algonquin personnel and MES field observations, the operation of the fixed decaners in this manner results in direct passing of all floatable materials on to the tertiary filters. In addition, by allowing the decaners to draw air at the end of the decant cycle, air space is created inside the decant pipe that can be filled by the mixed liquor on the fill cycle and then drawn to the filters in the first part of the next decant cycle.

Another challenge that has been identified by the Algonquin staff is the passing of mixed liquor through the decanter valves due to a failure to completely close. Moreover, if mixed liquor is leaked through the decaners, the problem is exacerbated by the fact that there is no way to return a bad batch to the head of the plant once it reaches the surge tank.

3.3 Tertiary Filtration System

The tertiary filtration system consists of the surge tank, the filter feed pumps, and the cloth-media disk filters, including the filter sludge and backwash return. The following items have been identified as challenge areas for this system:

3.3.1 Surge Tank Sizing

According to the design documents, the equalization capacity of the surge tank is approximately 250,000 gallons, whereas the volume of one decant batch is approximately 425,000 gallons. While this sizing of the tank is adequate to prevent hydraulic overloading of the filters, it is not large enough to provide flexibility for significant cycle changes in the SBR process, for isolation of a bad batch, for downtime if the filters blind, or for maintenance of the tank itself. Any of these events, if needed, require process shutdowns that can back up the wastewater flow all the way into the collection system.

3.3.2 Surge Tank Serpentine and Sediment Removal Difficulties

The surge tank is baffled in such a way that the flow travels through a serpentine configuration from the influent point to the filter feed pumps. Because there is no chlorine or filter aid addition in the tank, the

serpentine configuration appears to be unnecessary. It also makes the removal of sediments or floatables/FOGs difficult because access to the tank is only provided at one end and there is no sloping of the floor to move sediments to the accessible area.

3.3.3 Lack of Secondary Effluent Return Line from Surge Tank

The way the plant is currently configured, any secondary effluent that flows into the surge tank must be processed through the filters. There is no means to return the secondary effluent from the surge tank back to the headworks or the process tanks. This configuration can be a challenge because if mixed liquor, a large load of FOGs, or other solids come through the decanters, there is no way to divert the flow back to the plant to avoid overloading or stressing the filters.

3.3.4 FOG Blinding of the Cloth Media Filters

According to the Algonquin staff, there have been occasions where heavy FOG loads from the SBRs have blinded the cloth media of the disk filters, requiring extensive manual cleaning to restore filtration effectiveness. Even during the field visit for this report significant FOG's were observed floating in the filtration and surge tanks and built up along the backwash arms of the filters.

3.3.5 Filter Sludge Pump Failures and Valve Clogging

Another challenge with the filtration system that has been noted by the plant operations staff is the numerous failures of the filter sludge pump and the frequent clogging of the sludge valves and lines. It was suggested that larger lines and valves and a stockier pump for the sludge system would improve the maintenance issues.

3.4 Effluent Pumping and Disinfection System

The effluent pumping and disinfection system consists of an effluent clear well tank, effluent discharge pumps, a tablet chlorination system, the ultra-violet (UV) disinfection system, and the effluent meter. The following items have been identified as challenge areas for this combined system:

3.4.1 Clear Well Tank Sizing

According to the design documents, the differential storage capacity of the clear well tank is approximately 175,000 gallons. Like the post-equalization surge tank, the sizing of the tank is adequate to prevent hydraulic overloading downstream (in this case the UV reactors), but it is not large enough to provide flexibility for significant cycle changes in the SBR process, for isolation of a bad batch, for downtime if the UV system fails, or for maintenance of the tank itself. Any of these events, if needed, require process shutdowns that can back up the wastewater flow all the way into the collection system.

3.4.2 In-Line UV System Effectiveness and Maintenance Issues

Based on feedback from the operations staff, the inline ultra-violet reactors have had multiple performance and maintenance problems, and obtaining parts from the overseas manufacturer has been cumbersome. They indicate that there also have been fouling problems and extended periods where the disinfection effectiveness has not achieved the design levels. To help improve the fouling problems the Algonquin staff installed a system to periodically soak the reactors in citric acid.

3.5 Sludge Digestion and Dewatering System

The sludge digestion and dewatering system consists of the WAS wasting line, the rotary sludge thickeners, the ATAD and aerobic digesters, and the sludge dewatering and storage system. The following items have been identified as challenge areas for this combined system:

3.5.1 Sludge Wasting from Anoxic Tank

Based on a review of the design, the WAS system was configured to bleed WAS flow off of the jet-mixing line in the anoxic tank, fed by a single motive pump located within the basin. According to the operations staff this has created a problem due to the heavy percentage of raw wastewater that is introduced into that basin. The high volatile content and low mixed liquor TSS has apparently presented operational challenges to the digestion and dewatering processes downstream. To remedy this problem, the Algonquin staff made changes to enable the WAS flow to be drawn from the SBR tanks, and this appears to have improved the situation.

3.5.2 (Former) ATAD Process Odors and Foaming

The plant was designed to utilize a two-stage sludge digestion process, with the first stage being an Autothermal Thermophilic Aerobic Digestion (ATAD) process and the second stage being traditional aerobic digestion. According to the operations staff, the ATAD system has been problematic, with significant foaming problems and high odor generation. In addition, the process is sensitive to DO levels, which are difficult to maintain given the low flexibility of the constant speed blower system. Even manufacturers of ATAD systems acknowledge the drawbacks, as indicated in the following statement from the website of Thermal Process Systems, an ATAD equipment manufacturer:

"Various anaerobic and aerobic digestion processes are in use today. But each has its limitations. For example, natural aerobic digestion processes release heat, as well as water and carbon dioxide - all desired results. However, at typical mesophilic operating temperatures, roughly 20-45°C (68-113°F), the process is inefficient, resulting in instability with minimal pathogen kill and little solids reduction.

Results improved significantly with the introduction of Autothermal Thermophilic Aerobic Digestion (ATAD) several years ago. ATAD takes advantage of highly efficient thermophilic organisms naturally present in wastewater, optimizing the environment for them to proliferate and dominate. This increases the temperature of the

sludge as the thermophiles feed on other microorganisms. At these higher temperatures the cell walls of the activated sludge rupture, releasing the now-dead mesophilic contents and providing a feast for the thermophiles. The metabolism of the thermophiles is extremely high, yet the net yield is low, resulting in a significant reduction of volatile solids to produce a pathogen-free end product. On the downside, due to their inherent inflexibility, traditional ATAD processes often produce excess foam and unacceptable odors.”

The ATAD system that was designed and constructed at the Palm Valley WRF was apparently included at the request of the original owner and is not typically a process installed by the design-builder of the plant. Therefore, it appears that many of the controls and optimization features for an ATAD system are not available to the operations staff, exacerbating the inherent difficulties in running such a process. To rectify the problems, the Algonquin staff decided to convert the ATAD basins to traditional aerobic digestion and equalization for the second stage digesters. While this has improved the situation, the operations staff indicates that these converted basins are still very difficult to control and often slip back into periods of varying pH, heavy foaming, and excessive odors.

3.5.3 High Centrifuge Maintenance Costs

The sludge from the second stage aerobic digesters is dewatered using a centrifuge system. According to the operations staff the equipment produces an adequate biosolids cake when functioning properly. However, the equipment has been extremely unreliable, costing many man-hours for maintenance and significant funds for replacement parts which are not readily obtained.

3.5.4 Insufficient Plant Sewer Sizing for Return Flows

The return flows from the disk filters, the centrifuge, the sludge thickeners, and the seal water/floor drains in the sludge dewatering room are all routed through an 8-inch plant sewer line back to the anoxic basin. Based on the experience of the operations staff, this line is significantly undersized and will back up during heavy backwash or dewatering periods. In addition, there is no flow meter or sampling point in the line to determine the overall loading of the plant from the return flows.

3.6 Odor Control System

The odor control system originally consisted of two three-stage wet chemical scrubbers, one 10,000-cfm unit for the Headworks Building and Process Basins, and one 6,000-cfm unit for the Solids Dewatering Building and Digester Basins. Due to performance issues resulting in public complaints, in early 2007 a 16,000-scfm carbon media scrubber was added to polish the exhaust streams of the two original scrubbers. The following items have been identified as remaining challenge areas for this odor control system:

3.6.1 Inadequate Sizing of the Odor Control Units

Based on the air space volumes in the odor-controlled buildings and tanks, it appears that the system was designed to provide approximately 10 to 12 air changes per hour for each of the odor-controlled equipment rooms. The design appears to be based on drawing air in series from the process and digester basins *through* the odor-controlled rooms; but since input air can be drawn from various areas (e.g., the process air blowers, the evaporative cooling units, and incidental openings in each building), the entire volume of all air space is actually drawn through the system in parallel, significantly reducing the air changes per hour. Therefore the effective air change rate for the system as a whole appears to be *less than one* air change per hour. In addition, there are no apparent automatic or manual dampers on either the odor control duct lines or the buildings, which would mean there is no way of balancing the air in and out of the system.

3.6.2 Corrosion from Drawing Process Air from the Basins through the Buildings

Because the odor control system draws air from the process basins through the odor-controlled rooms, the equipment and fixtures in the rooms are exposed to moisture-laden air with highly corrosive constituents. The effects of this can be readily observed in the Headworks room, where a layer of corrosion coats most of the susceptible equipment and condensed moisture is visible on the windows and most hard surfaces. In addition, drawing the air from the process basins through the rooms creates a poor environment for operators working within the rooms.

3.6.3 Rotary Thickeners Not Individually Odor-Controlled

In the solids dewatering room the most noticeable generator of strong odors is the rotary thickening system. Although the two Rotary Thickener units are enclosed and appear to have a flange for attaching an odor-control duct, the ducts in the room are not connected to them. Instead the odors linger in the room until they make their way to the duct openings or an opening in the building. As a result, the room itself is quite odorous, creating an uncomfortable work environment and (because of the inefficiently balanced air flow) allowing odors to escape whenever a rollup or access door is opened.

4.0 POTENTIAL IMPROVEMENTS AT PALM VALLEY WRF

Based on the investigations conducted for this study, input from Algonquin staff, and the analysis detailed above, there are a number of potential improvements at the Palm Valley WRF that MES would recommend for further study and consideration. These potential improvements listed in this section are intended to be considered for the short-term to potentially alleviate immediate challenges. Potential improvements for the longer term and future expansions are provided in the next section.

While many challenge areas were identified in Section 3, there are four main improvement areas that if addressed could have an immediate positive impact on plant operations:

- Removing Large Solids from the Treatment Train
- Unclogging the Jet-Aeration Nozzles
- Minimizing Fats, Oils and Grease (FOGs)
- Reconfiguring and Augmenting the Odor Control System

These four items are discussed in detail below, along with suggestions for measures that could be taken in the short term to accomplish the improvements. After the analysis of these four areas, this section also provides a list of potential considerations for improvement of the other identified challenge areas for the Palm Valley facility.

4.1 Removing Large Solids from the Treatment Train

Many of the challenge areas listed in Section 3 are a direct result of, or are related to, the presence of large solids and debris in the treatment train. These include:

- Clogging of the jet-aeration nozzles in all process tanks
- Impeller wear in the submersible motive pumps
- Seating problems with the SBR decant valves
- Clogging of the filter sludge lines and valves
- Maintenance issues with the filter sludge pumps

Because of these challenges (and perhaps others not identified) that have to do with large solids and debris in the system, it is clear that influent screening is a critical process in the treatment train for this facility. Therefore we believe that Algonquin should implement measures to eliminate the potential for raw wastewater to bypass the influent screens and consider alternatives for re-screening the mixed liquor already in the system.

4.1.1 Suggestions for Further Review

Some potential mitigation measures that might be considered for further investigation include:

- Mixed Liquor Re-Screening – One means of removing large solids and debris that have already bypassed into the mixed liquor would be to install a temporary screening unit to take flow from the SBR-feed header and re-screen it for several weeks. We do not recommend re-screening the mixed liquor by routing it through the existing auger screens because it would potentially increase the maintenance, blinding, and bypass problems already observed with these screens.

- **Screen Augmentation/Replacement** – The current auger screens, while they may be adequate for another application, are not a good fit for a plant that has no upstream coarse screens or grinder and cannot bear occasional bypasses. Because adding upstream coarse screens or a grinder would be extremely difficult given the existing space and piping configuration, we recommend that Algonquin consider replacing these screens with 6-millimeter reciprocating stair screens, which are highly reliable, have low maintenance requirements, and require no upstream coarse screen.

We believe that the new screens could be cost-effectively integrated into the facility by re-using the existing screens as by-pass (or peak-flow) units. If new screens were installed to eliminate any unscreened wastewater bypassing, the mixed liquor could then be re-screened without the temporary unit. Alternately, a self-contained reciprocating stair screen could be utilized as the temporary re-screening unit and then installed as a permanent primary-screen replacement after the re-screening is complete.

4.2 Unclogging the Jet-Aeration Nozzles

As stated in Section 3, the nozzle openings for the jet-aeration headers are small enough to be clogged by large solids in the mixed liquor, and it appears that significant clogging has occurred in many of the jet-aeration headers, especially in the Anoxic Reactor. In many jet-aeration-type biological systems there is some way to back-flush the nozzles to remove clogged material, either an air-lift pipe that uses the process air to reverse the flow through the nozzles, or a dedicated pump that is used to draw flow back through the header. In the Palm Valley WRF jet-mix headers, however, the current piping configuration provides no means of back-flushing.

In the longer term, when the plant is expanded and the existing basins can be taken out of service, it is recommended that a back-flushing header be added to each basin and piped to a dedicated back-flushing pump. In the meantime however, an alternate means should be sought to back-flush or otherwise unclog the nozzles.

4.2.1 Suggestions for Further Review

Some potential mitigation measures that might be considered for further investigation include:

- **Reverse-Flow Submersible Pump** – based on discussions with Flygt, it appears that the manufacturer has in the past provided pumps configured to *reverse* the flow through the submersible. Assuming this is the case, one such pump configured for reverse flow could be used to flush the headers one by one on a periodic basis until a permanent back-flushing system can be installed. Although the manufacturer warned that such a pump will have a low efficiency, the benefits would far outweigh this drawback because there is no other way to easily back-flush

the nozzles. We recommend that Algonquin work with Flygt and an engineer to determine the feasibility of this approach.

- One-Time Cleaning – the nozzles could also be cleared by utilizing a diver with a cleaning rod and a high-pressure hose. However, because the high costs involved would make such cleanings impractical on a regular basis some means of preventing re-clogging would be needed, such as installing high-grade chopper pumps in place of the existing motive pumps. If the reverse-flow pump approach turns out to be infeasible, we recommend that a one-time cleaning and chopper pumps be considered until all the mixed liquor can be properly re-screened.

4.3 Minimizing Fats, Oils and Grease (FOGs)

Like the challenges posed by large solids, the challenges created by FOGs have an impact on many areas of the plant. The FOGs can cause foaming, increase odor problems, reduce the efficiency of (or even blind) the tertiary filters, and create performance problems in the UV disinfection system. Currently there is no process or means for reducing or removing FOGs anywhere in the facility treatment train.

In the longer term, when the plant is expanded and the existing basins can be taken out of service, it is recommended that a scum collection system be installed in the Anoxic and SBR basins. In the meantime however, alternate means should be sought to minimize and remove FOGs from the process.

4.3.1 Suggestions for Further Review

Some potential mitigation measures that might be considered for further investigation include:

- FOG-Reducing Additives – There are a number of chemical and biological additives on the market that are designed to reduce FOGs in the biological process. Products such as BioCope ERI and Advanced BioCatalytics Accell are additives that have been found to significantly reduce FOG accumulation by enhancing the ability of the biological system to break down FOG compounds. (BioCope is currently being used by Algonquin at its Boulder Drive facility.) Because the cost of temporary trials is relatively low and the benefit potentially high, it is recommended that FOG-reducing additive testing be initiated as soon as possible.
- SBR Minimum-Level Adjustment – According to the operations staff the SBRs are decanted until the decanters draw air. To prevent FOGs and other floatables from passing through to the filters, it is recommended that the minimum level in the SBRs be set to at least 3 to 6 inches above the decanter openings. This will allow the biological process to have more time to break down the FOGs and also prevent any mixed liquor from filling the annular space in the decanters during the other cycles.

- Skimming Return Cycle – Another controls adjustment that could help the biological system break down the FOGs might be to utilize the RAS troughs as skimmers during the mix and settle cycles by setting the level just above the trough weir for some period of time to skim the FOGs and floatables and return them to the anoxic basin. However, the controls would have to be configured such that the overall RAS rates still provide optimal treatment.
- Surge Tank Baffle – One way to reduce the floatables and FOGs that get into the surge tank would be to install an underflow baffle at the upstream end of the serpentine. Such a baffle could enable periodic manual removal by temporarily trapping a portion of the FOGs and floatables in an area accessible by the operators.

4.4 Reconfiguring and Augmenting the Odor Control System

As stated in Section 3, the odor control design appears to be based on drawing air from the process and digester basins *through* the odor-controlled rooms, but since input air can be drawn from various areas, the entire volume of all air space is drawn through the system in parallel, significantly reducing the air change per hour. Moreover, there are no apparent automatic or manual dampers on either the odor control duct lines or the buildings, which would mean there is no way of balancing the air into the system. While the new polishing unit should be effective on removing constituents that are not removed by the existing units, it will not increase the air changes or improve the environment in the odor-controlled rooms.

4.4.1 Suggestions for Further Review

Some potential mitigation measures that might be considered for further investigation include:

- Separating the Basins from the Rooms – One possibility for improving the system would be to seal off the basins from the equipment rooms and dedicate the existing scrubber system to the basins alone. As that is done, a room-dedicated system could be installed to provide the full 12 air changes per hour for the headworks and solids dewatering rooms. A significant benefit of this alternative would be that the wet and corrosive air from the tanks would not be drawn through the equipment rooms.

It is recommended that an ion-exchange system by IONstein Air Technologies be considered as the treatment unit for the equipment room. This type of unit treats the air in the room, as opposed to drawing it out of the room for treatment, and would have the advantage of improving the environment in the room and reducing the possibility of odors escaping through an open door. It is possible that the manufacturer would be willing to pilot such a unit prior to purchase to demonstrate successful performance.

- **Direct Ducting to Carbon Scrubber** – Along with separating the equipment rooms from the basins, a great deal of flexibility could be added to the system by installing new ductwork to allow the new carbon scrubber to draw directly from the equipment rooms. This would enable the new scrubber to increase the air changes in the rooms if necessary or be switched back to polish the exhaust of the existing scrubbers. It would also enable the equipment rooms to be separated from the basins during the transition if a new system is piloted or installed for the equipment rooms.
- **Air Balancing** – If, instead of the suggestions listed above, Algonquin decides to proceed with the more expensive option of replacing the existing scrubbers with much larger units, it is highly recommended that the air system be redesigned to seal off unintended air inlets and enable balancing of the air flow with automatic louvers and dampers.

5.0 CHALLENGES FOR FUTURE TREATMENT CAPACITY

In addition to all the facility challenges with the Palm Valley facility, LPSCO is challenged with a situation where influent flows that are increasing at an advanced pace. According to the operations staff the current facility, designed for an average flow of 4.1 mgd, has insufficient peaking or redundant capacity to accommodate the expected flows.

5.1 Timing of Future Expansions

According to Algonquin, the existing plan for accommodating future flows is to expand the Palm Valley WRF to its designed build-out capacity of 8.2 mgd, and to construct a new WRF facility at the Sarival site with an initial capacity of 1 to 2 mgd expandable to 8.2 mgd. However, at this stage it is unlikely that Algonquin will be able to design and construct either the second phase of the Palm Valley WRF or the first phase of the Sarival WRF before the current treatment capacity is exceeded. A contingent plan is being developed whereby a connection to the collection system for the City of Goodyear would be constructed to accommodate excess flows; however Algonquin has indicated that they would prefer to treat all of the wastewater from their service area if possible.

5.2 Expansion Area and Setback Limitations at Palm Valley WRF

The planned Phase 2 expansion of the Palm Valley WRF will face a number of challenges based on the layout of the original facility plan because the WRF was built on an extremely limited footprint area. There is virtually no room to add any equipment or structures that were not planned for in the original build-out expansion facility plan, let alone for adding additional equipment or structures that were not planned. (Actually, even with the original facility plan, finding room for construction equipment and material lay-down areas during construction will be a severe challenge.) It may also be problematic that

the Phase 2 expansion area is located on the east side of the facility, closer to the commercial center that has been the source of most of the odor complaints since the construction of the first phase. And, making matters worse, residential homes have been built inside the intended odor easement north of the facility in recent months.

6.0 NEAR-TERM TREATMENT CAPACITY ALTERNATIVES

Based on the flow rates currently being experienced at the plant it appears that the facility is quickly reaching its maximum hydraulic and biological treatment capacity. This will present an all-encompassing challenge to the LPSCO wastewater treatment facilities that eclipses those identified in Section 3 because, even with alternative procurement methods such as design-build or CM@Risk, it is unlikely that the Phase 2 expansion of the plant could be designed and constructed in time to accommodate the peak flows starting in November or December of 2007.

However, based on the analysis by MES developed for this study, it appears that there are a few alternatives that would serve to expand redundant capacity in the near term without jeopardizing future capacity expansions while staying within the existing planned footprints for both the Palm Valley and Sarival sites. These include the following:

- Installing a temporary package plant at the Sarival site and reversing the flow in the force main from the Sarival Pump Station to convey excess flow from the Palm Valley WRF
- Using a pre-engineered submerged membrane filtration system to increase the redundant capacity at the Palm Valley WRF by eliminating the decant cycle and possibly running at higher MLSS concentrations
- Increasing the peaking and redundant capacity of the existing Palm Valley WRF by converting the digester tanks to SBR tanks and producing non-Class B dewatered biosolids for landfill disposal.

6.1 Temporary Package Plant at the Sarival Site

One possibility to relieve the Palm Valley WRF of peak flows in the near term would be to install a temporary package plant at the Sarival site and use the existing force main from the Sarival Lift Station to convey flow from the Palm Valley WRF to the Sarival package plant. This would relieve the peak flows from the Palm Valley WRF and allow time for Phase 1 of the (permanent) Sarival WRF and Phase 2 of the Palm Valley WRF to be designed and constructed.

To be able to reliably accommodate excess flows for the period required, the size of the package plant would need have a treatment capacity of between 0.5 and 1.0 mgd at an approximate cost of \$5M to

\$10M. The main drawbacks of this alternative are that the costs of the package system would be difficult to recoup once the permanent facility was brought on line, and it is not certain whether or not the package facility could be permitted, designed, and constructed at the site before the end of 2007.

6.2 Pre-Engineered Submerged Membrane Filtration System

One way to expand the treatment capacity at the existing Palm Valley WRF would be to add a skid-mounted, pre-engineered submerged membrane filtration system to the process. Such a system would increase the capacity of the SBRs by eliminating the decant cycles and enabling operation at significantly higher MLSS concentrations. Based on preliminary calculations, adding a membrane system could increase the capacity of the plant by approximately 15-20 percent, or 0.6 to 0.8 mgd, at a cost of approximately \$5M for the membrane equipment alone. Other upgrades such as aeration capacity and MLR pumps would also be required. In addition, because the membranes are sensitive to abrasive materials and fibers, this alternative would absolutely require re-screening of the mixed liquor and installation of fine screens with openings as small as 2 millimeters.

Based on a review of the Palm Valley site plan, it appears that the only feasible location for the addition of such a system would be at the south end of the existing SBR basins, the current location of the visitor parking lot. While there are areas available to the east, it seems likely that locating the membrane filtration system in this area would interfere with the Phase 2 expansion of the facility.

Aside from the capital costs and the loss of the parking area, the main drawback of this alternative would be the cost and complexity of maintaining a submerged membrane filtration system, including the membrane cleaning and chemical systems, power costs, and membrane replacement costs.

6.3 Conversion of Digester Tanks to SBR Tanks

Another way to expand the peaking and redundant treatment capacity of the Palm Valley WRF would be to convert the existing digester tanks to SBR process basins. This would be a fairly straight-forward conversion because the digester tanks are already configured similar to the SBR tanks, with jet-aeration headers and submersible motive pumps. Based on a cursory review of the plans, as a minimum the following items would need to be modified to make the conversion:

- Configure the influent piping and controls from the anoxic tank to feed the additional SBR basins
- Add jet-aeration headers and blower capacity to increase the aeration in the new tanks
- Install decanters and piping to direct secondary effluent into the surge tank
- Add a return trough and piping back to the anoxic tank
- Increase the capacity of the downstream processes, including the filters and UV system

The existing SBR tanks have a treatment capacity of approximately 4.1 mgd with an operating volume of approximately 3.1 million gallons, indicating a SBR treatment-to-volume ratio of approximately 1.3. If converted, the digester tanks would provide up to about 1.3 million gallons of additional SBR treatment volume, which converts to up to 1.7 MGD of additional redundant/peaking treatment capacity. Even with an allowance factor for unforeseen items in the conversion, *this alternative could be able to provide up to 1.5 MGD of additional plant capacity for peaking or redundancy purposes*. Based on the assumed requirements for the conversion, it is expected that the design and construction could be completed within about 9 months under a CM@Risk procurement structure.

An additional benefit of this alternative would be that it would have little to no effect on the construction, operation or capacity of the Phase 2 expansion. Of course, removing the digester tanks from the solids handling process would mean that the facility could no longer produce Class B biosolids. However, if the ATAD tanks are used strictly for aerated sludge storage and equalization, the sludge could still be dewatered on-site to meet the paint-filter-test standard for landfill disposal. Alternatively, all solids handling could be removed from the Palm Valley plant and the sludge could be transported to the Sarival WRF by way of the existing force main (in reverse) once that facility is constructed and brought on line.

6.4 Recommended Near-Term Capacity Expansion Alternative

Although each of the three alternatives described above have the potential of providing a solution to the near-term redundant/peaking wastewater treatment capacity shortfall, because of its simplicity, low risk, moderate capital costs, and minimal impact to future expansions, we recommend that the third option, conversion of the digester tanks to SBR process basins, be planned and executed as soon as possible. We recommend that Algonquin commission a feasibility study to determine the precise requirements of the conversion, and then execute a CM@Risk procurement to construct the new facilities for start-up and commissioning before the end of 2007.

7.0 SUMMARY OF RECOMMENDATIONS

To be completed...